

FULL-LENGTH cDNA

FIELD OF THE INVENTION

The present invention relates to polynucleotides encoding
5 novel polypeptides, the polypeptides encoded by these
polynucleotides, and new uses of these.

BACKGROUND OF THE INVENTION

The genomic DNAs of various living organisms are currently
10 being sequenced and analyzed all over the world. The entire
genomic sequences of more than 40 species of prokaryotes, a
lower eukaryote, yeast, a multicellular eukaryote, *C. elegans*,
and a higher plant, *arabidopsis*, and such have already been
determined. Analysis of the human genome, presumed to have
15 three billion base pairs, was advanced under global cooperative
organization, and a draft sequence was disclosed in 2001. In
2003 the complete structure had been elucidated and publically
disclosed. A genome is a blueprint for highly complicated
living organisms. The aim in determining a genomic sequence is
20 to reveal the function and regulation of all genes, and to
understand living organisms as a network of interactions between
genes, proteins, cells or individuals. Understanding living
organisms through the genomic information of various species is
not only academically important, but also socially significant
25 from the viewpoint of industrial application.

However, simply determining a genomic sequence will not
reveal the function of all genes. For example, in the case of
yeast, the function of only approximately half of the 6000 genes
predicted on the basis of genomic sequence have been deduced.
30 The human genome has been estimated to contain about 30,000 to
40,000 genes. Further, 100,000 or more types of mRNAs are said
to exist when variants produced by alternative splicing are
taken into consideration. Therefore, it is desirable to
establish "a high throughput system for analysis of gene
35 functions" which allows rapid and efficient identification of

the functions of vast amounts of genes obtained by genomic sequencing.

Many genes in the eukaryotic genome are split by introns into multiple exons. Thus, it is difficult to correctly predict the structure of an encoded protein based solely on genomic information. In contrast, cDNA, which is produced from mRNA that lacks introns, encodes a protein as a single continuous amino acid sequence and allows easy identification of the protein's primary structure. In human cDNA research to date, more than three million ESTs (Expression Sequence Tags) are publicly available, which presumably covers no less than 80% of all human genes.

EST information is utilized in a variety of ways, for example in analyzing the structure of the human genome, or in predicting exon regions of genomic sequences or their expression profiles. However, most human ESTs have been derived from regions proximal to the cDNA 3'-end, and little information is available from around the mRNA 5'-end. In human cDNAs, the full-length protein sequence of approximately 15,000 corresponding mRNAs have been deduced.

It is possible to identify the mRNA transcription start site on the genomic sequence based on the 5'-end sequence of a full-length cDNA, and to analyze factors involved in the stability of mRNA contained in that sequence, or in the regulation of its expression at the translation stage. Also, since the atg codon, or translation start site, is contained in the 5'-region of a full-length cDNA, translation to proteins will occur in the correct frame. Therefore, it is possible to produce a large amount of the protein encoded by the cDNA, or to analyze the biological activity of the expressed protein by utilizing an appropriate expression system. Thus, analysis of full-length cDNA provides valuable information which complements genome sequencing information. Also, full-length cDNA clones that can be expressed are extremely valuable in empirical analysis of gene function and in industrial application.

Therefore, if a novel human full-length cDNA can be isolated, it can be used for developing medicines for diseases in which its gene is involved. A protein encoded by such a gene can be used as a drug by itself. Thus, obtaining full-length
5 cDNAs encoding novel human proteins is of great significance.

In particular, human secretory proteins or membrane proteins would be useful used as medicines in the same manner as tissue plasminogen activator (TPA), or as target proteins for medicines like membrane receptors. In addition, genes for
10 signal transduction-related proteins (protein kinases, etc.), glycoprotein-related proteins, transcription-related proteins, and such, are genes whose relationships to human diseases have been elucidated. Moreover, genes for disease-related proteins form a gene group rich in genes whose relationships to human
15 diseases have been elucidated.

Isolating novel full-length human cDNA clones, only a few of which have been isolated, is of great significance. The isolation of novel cDNA clones encoding secretory proteins or membrane proteins is especially desired since such proteins
20 would be useful in themselves as medicines, and also their clones would potentially include genes involved in disease. In addition, genes encoding proteins involved in signal transduction, glycoprotein, transcription, or disease, are expected to be useful as target molecules for therapy, or as
25 medicines in themselves. These genes form a gene group predicted to be strongly involved in disease. Thus, identification of full-length cDNA clones encoding these proteins has great significance.

SUMMARY OF THE INVENTION

An objective of the present invention is to provide polynucleotides encoding novel polypeptides, polypeptides encoded by the polynucleotides, and novel usages of these.

The inventors have developed a method for efficiently
35 cloning, from a cDNA library having a very high fullness-ratio, human full-length cDNAs predicted to be full-length cDNA clones,

where that cDNA library is synthesized by an improved method (WO 01/04286) of oligo-capping (K. Maruyama and S. Sugano, Gene, 138: 171-174 (1994); Y. Suzuki et al., Gene, 200: 149-156 (1997)). The nucleotide sequences of cDNA clones whose fullness ratio is high, obtained by this method, were determined mainly from their 5'-end, and, if required, from their 3'-end.

Among the clones obtained, representative clones estimated to be novel and full-length were analyzed for their full-length nucleotide sequence. The determined full-length nucleotide sequences were analyzed using a BLAST homology search of the databases shown below. Homology searches of the present invention were carried out based on full-length cDNA information, including the entire coding region, and thus homology to every part of a polypeptide could be analyzed. Therefore, in the present invention, the reliability of homology searches has been greatly improved.

[1] SwissProt

(http://www.ebi.ac.uk/ebi_docs/SwissProt_db/swisshome.html),

[2] GenBank (<http://www.ncbi.nlm.nih.gov/web/GenBank>),

[3] UniGene (Human) (<http://www.ncbi.nlm.nih.gov/UniGene>),

[4] nr (a protein database, which has been constructed by combining data of coding sequences (CDS) in nucleotide sequences deposited in GenBank, and data of SwissProt, PDB (<http://www.rcsb.org/pdb/index.html>),

(<http://pir.georgetown.edu/pirwww/pirhome.shtml>), and PRF (<http://www.prf.or.jp/en/>); overlapping sequences have been removed.), and

[5] RefSeq (<http://www.ncbi.nlm.nih.gov/LocusLink/refseq.html>).

The gene expression profiles of cDNA clones whose full-length nucleotide sequence had been determined were studied by analyzing the large-scale cDNA database constructed based on the 5'-end nucleotide sequences of cDNAs obtained. The present inventors revealed the usefulness of the genes of the present invention based on these analysis results.

In the present invention, gene functions were revealed by analysis of expression profiles *in silico*, based on full-length

nucleotide sequence information. The expression profiles used in the expression frequency analysis were studied based on databases containing a sufficient amount of fragment sequence data. Expression frequency analysis was carried out by referring, for these expression profiles, to the full-length nucleotide sequences of the many cDNA clones obtained in the present invention. Thus, highly reliable analysis was achieved by referring to the full-length nucleotide sequences of a wide variety of genes in a sufficiently large population for analysis (expression profiles). Namely, the results of expression frequency analysis using the full-length sequences of the present invention more precisely reflect gene expression frequency in tissues and cells from which a certain cDNA library was derived. Thus, the full-length cDNA nucleotide sequence information of the present invention made it possible to achieve highly reliable expression frequency analysis.

The full-length cDNA clones of the present invention were obtained by a method comprising the steps of [1] preparing libraries containing cDNAs with a high fullness ratio using oligo-capping, and [2] assembling 5'-end sequences and selecting those with the highest probability of completeness in length in the cluster formed (there are many clones longer in the 5'-end direction). The use of primers designed based on the 5'- and 3'-end sequences of polynucleotides provided by the present invention enable full-length cDNAs to be readily obtained without using such special techniques. Primers, which are designed for use in obtaining cDNAs capable of being expressed, are not limited to the 5'- and 3'-end sequences of a polynucleotide.

Specifically, the present invention relates to polynucleotides and proteins encoded by the polypeptides as follows.

[1] A polynucleotide selected from the group consisting of:
(a) a polynucleotide comprising a protein-coding region of the nucleotide sequence according to any one of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683;

(b) a polynucleotide comprising the nucleotide sequence encoding a polypeptide that comprises the amino acid sequence of any one of SEQ ID NOs: 2189-4376 and SEQ ID NOs: 4684-4990;

5 (c) a polynucleotide comprising a nucleotide sequence encoding a polypeptide, which comprises the amino acid sequence selected from SEQ ID NO: SEQ ID NOs: 2189-4376 and SEQ ID NOs: 4684-4990 wherein one or more amino acids have been substituted, deleted, inserted, and/or added, and which is functionally equivalent to the polypeptide comprising the selected amino acid
10 sequence as described above;

(d) a polynucleotide which hybridizes to a polynucleotide comprising the nucleotide sequence selected from SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683, and which comprises the nucleotide sequence encoding a polypeptide functionally
15 equivalent to a polypeptide encoded by the selected nucleotide sequence as described above;

(e) a polynucleotide comprising a nucleotide sequence encoding a partial amino acid sequence of a polypeptide encoded by the polynucleotides according to any one of (a)-(d);

20 (f) a polynucleotide comprising a nucleotide sequence having at least 70% identity to the nucleotide sequence of any one of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683; and

(g) a polynucleotide comprising a nucleotide sequence having at least 90% identity to the nucleotide sequence of any
25 one of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683.

[2] A polypeptide encoded by the polynucleotide according to [1], or a partial peptide thereof.

[3] An antibody which binds to the polypeptide or the peptide according to [2].

30 [4] An immunoassay method for the polypeptide or the peptide according to [2], which comprises the steps of:

(a) contacting the polypeptide or the peptide according to [2] with the antibody according to [3]; and

(b) observing the binding between the two.

35 [5] A vector comprising the polynucleotide according to [1].

[6] A transformant comprising the polynucleotide according to [1] or the vector according to [5].

[7] A transformant which comprises the polynucleotide according to [1] or vector according to [5] in an expressible
5 manner.

[8] A method for producing the polypeptide or the peptide according to [2], which comprises the steps of:

(a) culturing the transformant according to [7]; and

(b) recovering the expression product.

10 [9] An oligonucleotide comprising 15 or more nucleotides, which comprises the nucleotide sequence according to any one of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683, or a nucleotide sequence complementary to the complementary strand thereof.

[10] A primer for synthesizing a polynucleotide, which
15 comprises the oligonucleotide according to [9].

[11] A probe for detecting a polynucleotide, which comprises the oligonucleotide according to [9].

[12] A polynucleotide according to any one of:

(a) an antisense polynucleotide comprising a nucleotide
20 sequence complementary to the transcript of the polynucleotide according to [1];

(b) a polynucleotide with the ribozyme activity for specifically cleaving the transcript of the polynucleotide according to [1]; and

25 (c) a polynucleotide which downregulates the expression of the polynucleotide of [1] due to RNAi activity in a host cell.

[13] A method for detecting the polynucleotide according to [1], which comprises the steps of:

(a) incubating a target polynucleotide with the
30 oligonucleotide according to [9] under conditions ensuring hybridization; and

(b) detecting the hybridization between the target polynucleotide and the oligonucleotide according to [9].

[14] A database of polynucleotides and/or polypeptides,
35 which comprises information on at least one of the nucleotide sequences of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683 and/or

on at least one of the amino acid sequences of SEQ ID NOs: 2189-4376 and SEQ ID NOs: 4684-4990.

Herein, "polynucleotide" is defined as a molecule, such as a DNA or RNA, in which multiple nucleotides are polymerized. There is no limitation as to the number of polymerized nucleotides. If a polymer contains a relatively low number of nucleotides, it is also described as an "oligonucleotide", which is included in the "polynucleotide" of the present invention. The polynucleotides or oligonucleotides of the present invention can be natural or chemically synthesized. Alternatively, they can be synthesized using a template polynucleotide in an enzymatic reaction such as PCR. Furthermore, the polynucleotides of the present invention may be modified chemically. Single-stranded and double-stranded polynucleotides are included in the present invention. In this specification, especially in the claims, when the polynucleotides are described merely as "polynucleotide", it means not only single-stranded polynucleotides but also double-stranded polynucleotides. When it means a double-stranded polynucleotide, the nucleotide sequence of only one chain is indicated. However, based on the nucleotide sequence of a sense chain, the nucleotide sequence of the corresponding complementary strand is essentially determined.

All the cDNAs provided by the present invention are full-length cDNAs. "Full-length cDNAs" herein means cDNAs containing the ATG codon, which is the start point of translation therein. Untranslated regions upstream and downstream of the protein-coding region are both naturally contained in natural mRNAs and are not essential. It is preferable that the full-length cDNAs of the present invention contain a stop codon.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the restriction map of the vector pME18SFL3.

DETAILED DESCRIPTION OF THE INVENTION

All of the clones (2495 clones) of the present invention are novel and encode full-length polypeptides. Further, all of the clones are cDNAs with a high fullness ratio, and which were obtained by oligo-capping method. None of the clones are identical to any known human mRNAs (namely, they are novel clones) selected by searching 5'-end sequences and mRNA sequences with the annotation of "complete cds" in the GenBank and UniGene databases using BLAST homology [S. F. Altschul, W. Gish, W. Miller, E. W. Myers & D. J. Lipman, J. Mol. Biol., 215: 403-410 (1990); W. Gish & D. J. States, Nature Genet., 3: 266-272 (1993)]. They are also clones that were assumed to have a higher fullness ratio among members in assembled clusters. Most of the clones with a high fullness ratio in a cluster had nucleotide sequences longer in the 5'-end direction.

All of the full-length cDNAs of the present invention can be synthesized by a method such as PCR (Current protocols in Molecular Biology edit. Ausubel et al. (1987) Publish. John Wiley & Sons Section 6.1-6.4) using primer sets designed based on 5'-end and 3'-end sequences, or using primer sets of primers designed based on 5'-end sequences and a primer of oligo dT sequence corresponding to poly A sequence. Table 1 contains the clone names of 2,495 full-length cDNA clones of the present invention, SEQ ID NOs of the full-length nucleotide sequences, CDS portions deduced from the full-length nucleotide sequences, and SEQ ID NOs of the translated amino acids. The positions of CDS are shown according to the rules set out in "DDBJ/EMBL/GenBank Feature Table Definition" (<http://www.ncbi.nlm.nih.gov/collab/FT/index.html>). The start position number corresponds to the first letter of "ATG", the nucleotide triplet encoding methionine; the termination position number corresponds to the third letter of the stop codon. These are indicated by flanking with the mark "...". However, in clones without a stop codon, the termination position is indicated by the mark ">", according to the above rules.

Table 1

	3NB692002685	1	777..1496	2189
	3NB692002806	2	33.. 674	2190
5	3NB692008729	3	455..1189	2191
	ACTVT2000380	4	593.. 919	2192
	ADIPS2000088	5	59..1486	2193
	ADRGL2000172	6	237.. 638	2194
	ADRGL2003329	7	640..1014	2195
10	ADRGL2009146	8	313.. 732	2196
	ADRGL2009691	9	294.. 767	2197
	ADRGL2009755	10	87..1265	2198
	ADRGL2012038	11	342.. 686	2199
	ADRGL2012179	12	254.. 625	2200
15	ASTR01000009	13	458..1552	2201
	ASTR02002842	14	150..1490	2202
	ASTR02003960	15	422.. 895	2203
	ASTR02014923	16	65..1357	2204
	ASTR02018373	17	123.. 512	2205
20	ASTR03000172	18	2582..2890	2206
	ASTR03000177	19	2311..3978	2207
	ASTR03000301	20	125..3832	2208
	ASTR03000482	21	90.. 557	2209
	BLADE1000176	22	1787..2101	2210
25	BLADE2001371	23	1009..1323	2211
	BLADE2001987	24	186.. 548	2212
	BLADE2002073	25	481.. 801	2213
	BLADE2002782	26	1341..1667	2214
	BLADE2002947	27	7.. 336	2215
30	BLADE2003474	28	967..1272	2216
	BLADE2004089	29	60..>2486	2217
	BLADE2004462	30	96.. 512	2218
	BLADE2004670	31	2037..>2574	2219
	BLADE2005036	32	1293..1838	2220
35	BLADE2005459	33	306.. 977	2221
	BLADE2007666	34	2289..2612	2222

	BLADE2007958	35	1147..1530	2223
	BLADE2008281	36	26.. 370	2224
	BLADE2008398	37	2742..3422	2225
	BLADE2008539	38	2857..4245	2226
5	BNGH42003570	39	98.. 802	2227
	BNGH42007788	40	472..1782	2228
	BRACE1000186	41	333.. 821	2229
	BRACE1000258	42	10..2538	2230
	BRACE1000533	43	1483..1908	2231
10	BRACE1000572	44	16..3435	2232
	BRACE2003639	45	481..1065	2233
	BRACE2005457	46	128..1237	2234
	BRACE2006319	47	603..1517	2235
	BRACE2008594	48	1221..1871	2236
15	BRACE2010489	49	262..>1693	2237
	BRACE2011747	50	983..1438	2238
	BRACE2014306	51	32..1402	2239
	BRACE2014475	52	598.. 906	2240
	BRACE2014657	53	404.. 814	2241
20	BRACE2015058	54	670..1116	2242
	BRACE2015314	55	203..1822	2243
	BRACE2016981	56	51..1355	2244
	BRACE2018762	57	654..1739	2245
	BRACE2024627	58	438.. 950	2246
25	BRACE2026836	59	134..1087	2247
	BRACE2027258	60	164..>1851	2248
	BRACE2027970	61	1538..1990	2249
	BRACE2028970	62	2257..2685	2250
	BRACE2029112	63	832..1191	2251
30	BRACE2029849	64	1039..1341	2252
	BRACE2030326	65	344.. 688	2253
	BRACE2030341	66	1209..1694	2254
	BRACE2030884	67	1248..1601	2255
	BRACE2031154	68	2.. 367	2256
35	BRACE2031389	69	690..1271	2257
	BRACE2031527	70	367.. 684	2258

	BRACE2031531	71	120.. 635	2259
	BRACE2031899	72	46.. 381	2260
	BRACE2032044	73	403.. 732	2261
	BRACE2032329	74	1330.. 1761	2262
5	BRACE2032385	75	20.. 613	2263
	BRACE2032538	76	189.. 515	2264
	BRACE2032823	77	1910.. 2212	2265
	BRACE2033720	78	28.. 537	2266
	BRACE2035381	79	1310.. 2758	2267
10	BRACE2035441	80	98.. 1660	2268
	BRACE2036005	81	1584.. 1913	2269
	BRACE2036096	82	1173.. 1484	2270
	BRACE2036830	83	391.. 702	2271
	BRACE2036834	84	1436.. 1894	2272
15	BRACE2037847	85	122.. 616	2273
	BRACE2038114	86	171.. 536	2274
	BRACE2038329	87	335.. 928	2275
	BRACE2038551	88	1913.. 2239	2276
	BRACE2039249	89	1085.. 1726	2277
20	BRACE2039327	90	361.. 1419	2278
	BRACE2039475	91	307.. 753	2279
	BRACE2039734	92	16.. >1730	2280
	BRACE2040138	93	797.. 1216	2281
	BRACE2040325	94	356.. 757	2282
25	BRACE2041009	95	29.. 1390	2283
	BRACE2041200	96	304.. 945	2284
	BRACE2041264	97	530.. 1105	2285
	BRACE2042550	98	15.. 1007	2286
	BRACE2043142	99	156.. 908	2287
30	BRACE2043248	100	1099.. 1581	2288
	BRACE2043349	101	202.. 531	2289
	BRACE2043665	102	858.. 1565	2290
	BRACE2044286	103	125.. 2011	2291
	BRACE2044816	104	188.. 670	2292
35	BRACE2044949	105	24.. 725	2293
	BRACE2045300	106	1174.. 1863	2294

	BRACE2045428	107	209.. 625	2295
	BRACE2045596	108	906.. 1583	2296
	BRACE2045772	109	31.. 777	2297
	BRACE2045947	110	499.. 1164	2298
5	BRACE2045954	111	1558.. 1863	2299
	BRACE2046251	112	527.. 1360	2300
	BRACE2046295	113	436.. 1428	2301
	BRACE2047011	114	1453.. 1794	2302
	BRACE2047350	115	2840.. 3487	2303
10	BRACE2047377	116	133.. 456	2304
	BRACE2047385	117	75.. 458	2305
	BRACE3000071	118	1729.. 2124	2306
	BRACE3000697	119	131.. 703	2307
	BRACE3000787	120	2208.. 2750	2308
15	BRACE3000840	121	564.. 3611	2309
	BRACE3000973	122	887.. 1666	2310
	BRACE3001002	123	292.. 624	2311
	BRACE3001217	124	2924.. 3241	2312
	BRACE3001391	125	1803.. 3506	2313
20	BRACE3001595	126	8.. 952	2314
	BRACE3001754	127	586.. 1188	2315
	BRACE3002298	128	67.. 375	2316
	BRACE3002390	129	136.. 537	2317
	BRACE3002508	130	3430.. 4104	2318
25	BRACE3003004	131	692.. 1027	2319
	BRACE3003192	132	1044.. 3245	2320
	BRACE3003595	133	1654.. 4179	2321
	BRACE3003698	134	506.. 847	2322
	BRACE3004058	135	2267.. 3040	2323
30	BRACE3004113	136	1887.. 2189	2324
	BRACE3004150	137	1537.. 2886	2325
	BRACE3004358	138	222.. 551	2326
	BRACE3004435	139	2782.. 3240	2327
	BRACE3004772	140	888.. 1577	2328
35	BRACE3004783	141	132.. 644	2329
	BRACE3004843	142	183.. 500	2330

	BRACE3004880	143	885..1655	2331
	BRACE3005145	144	717..1484	2332
	BRACE3005225	145	76.. 495	2333
	BRACE3005430	146	3120..3524	2334
5	BRACE3005499	147	205.. 531	2335
	BRACE3006185	148	220.. 648	2336
	BRACE3006226	149	580.. 951	2337
	BRACE3006462	150	1851..2213	2338
	BRACE3006872	151	1136..1957	2339
10	BRACE3007322	152	2918..>3227	2340
	BRACE3007472	153	190.. 573	2341
	BRACE3007480	154	93.. 962	2342
	BRACE3007559	155	1236..1592	2343
	BRACE3007625	156	36..3053	2344
15	BRACE3007642	157	1857..2294	2345
	BRACE3007767	158	237.. 758	2346
	BRACE3008036	159	162.. 512	2347
	BRACE3008092	160	3356..3724	2348
	BRACE3008137	161	208..3699	2349
20	BRACE3008384	162	123..1043	2350
	BRACE3008720	163	3014..3550	2351
	BRACE3008772	164	3900..4331	2352
	BRACE3009090	165	70.. 585	2353
	BRACE3009237	166	406.. 714	2354
25	BRACE3009297	167	2724..3107	2355
	BRACE3009377	168	1359..1790	2356
	BRACE3009574	169	180.. 527	2357
	BRACE3009701	170	1011..1550	2358
	BRACE3009708	171	105..2867	2359
30	BRACE3009724	172	2401..3282	2360
	BRACE3009747	173	2650..3171	2361
	BRACE3010397	174	1848..2660	2362
	BRACE3010428	175	269.. 628	2363
	BRACE3011271	176	689..1417	2364
35	BRACE3011421	177	372..3209	2365
	BRACE3011505	178	688..1035	2366

	BRACE3012364	179	1980..2633	2367
	BRACE3012930	180	1128..1718	2368
	BRACE3013119	181	66.. 395	2369
	BRACE3013576	182	2120..2971	2370
5	BRACE3013740	183	118.. 447	2371
	BRACE3013780	184	6..1124	2372
	BRACE3014005	185	1460..2374	2373
	BRACE3014068	186	29.. 373	2374
	BRACE3014231	187	928..1347	2375
10	BRACE3014317	188	44.. 550	2376
	BRACE3014807	189	144..1202	2377
	BRACE3015027	190	1..1656	2378
	BRACE3015121	191	3019..4404	2379
	BRACE3015262	192	27..2195	2380
15	BRACE3015521	193	2117..2827	2381
	BRACE3015894	194	285.. 773	2382
	BRACE3016884	195	303..2633	2383
	BRACE3018308	196	106.. 612	2384
	BRACE3018963	197	332.. 676	2385
20	BRACE3019055	198	1065..1940	2386
	BRACE3019084	199	1644..2369	2387
	BRACE3020194	200	1727..2161	2388
	BRACE3020286	201	85.. 426	2389
	BRACE3020594	202	250.. 624	2390
25	BRACE3022769	203	299.. 790	2391
	BRACE3023912	204	12.. 539	2392
	BRACE3024073	205	86.. 655	2393
	BRACE3024659	206	14.. 586	2394
	BRACE3024662	207	401.. 925	2395
30	BRACE3025153	208	98.. 523	2396
	BRACE3025457	209	1204..2541	2397
	BRACE3025531	210	1319..2338	2398
	BRACE3025630	211	1329..1919	2399
	BRACE3026008	212	250.. 558	2400
35	BRACE3026075	213	130.. 483	2401
	BRACE3026735	214	324.. 635	2402

	BRACE3027242	215	273.. 791	2403
	BRACE3027326	216	237.. 2372	2404
	BRACE3027478	217	32.. 529	2405
	BRACE3030103	218	320.. 682	2406
5	BRACE3031838	219	1661.. 1981	2407
	BRACE3032983	220	155.. 484	2408
	BRACE3040856	221	187.. 585	2409
	BRACE3045033	222	24.. 566	2410
	BRALZ2011796	223	132.. 1361	2411
10	BRALZ2012183	224	2172.. 2741	2412
	BRALZ2012848	225	218.. 754	2413
	BRALZ2014484	226	80.. 1411	2414
	BRALZ2016085	227	217.. >1672	2415
	BRALZ2016498	228	402.. 893	2416
15	BRALZ2017359	229	47.. 973	2417
	BRAMY2001473	230	112.. 1701	2418
	BRAMY2003008	231	236.. 961	2419
	BRAMY2004771	232	240.. 2108	2420
	BRAMY2005052	233	211.. 1434	2421
20	BRAMY2017528	234	447.. 1076	2422
	BRAMY2019300	235	338.. 2110	2423
	BRAMY2019963	236	206.. 640	2424
	BRAMY2019985	237	271.. 573	2425
	BRAMY2020058	238	1537.. 1962	2426
25	BRAMY2020270	239	98.. 976	2427
	BRAMY2021498	240	71.. 1870	2428
	BRAMY2028856	241	16.. 333	2429
	BRAMY2028914	242	34.. 534	2430
	BRAMY2029602	243	216.. 731	2431
30	BRAMY2030098	244	960.. 1298	2432
	BRAMY2030109	245	271.. 1296	2433
	BRAMY2030702	246	1008.. 1316	2434
	BRAMY2030703	247	132.. 611	2435
	BRAMY2030799	248	85.. 480	2436
35	BRAMY2031317	249	313.. 2334	2437
	BRAMY2031377	250	214.. 642	2438

	BRAMY2031442	251	1492.. 1854	2439
	BRAMY2032014	252	1227.. 2054	2440
	BRAMY2032242	253	404.. 1150	2441
	BRAMY2032317	254	1649.. 1987	2442
5	BRAMY2033003	255	736.. 1068	2443
	BRAMY2033116	256	1008.. 1721	2444
	BRAMY2033267	257	609.. 923	2445
	BRAMY2033594	258	2121.. 2447	2446
	BRAMY2034185	259	47.. 400	2447
10	BRAMY2034920	260	222.. 620	2448
	BRAMY2034993	261	1613.. 2041	2449
	BRAMY2036387	262	1858.. 2160	2450
	BRAMY2036396	263	837.. 1169	2451
	BRAMY2036567	264	859.. 1338	2452
15	BRAMY2036699	265	60.. 374	2453
	BRAMY2036913	266	86.. 433	2454
	BRAMY2037823	267	2163.. 2549	2455
	BRAMY2038100	268	515.. 997	2456
	BRAMY2038484	269	95.. 709	2457
20	BRAMY2038846	270	1709.. 2356	2458
	BRAMY2038904	271	118.. 2274	2459
	BRAMY2039872	272	663.. 1148	2460
	BRAMY2040478	273	1754.. 2083	2461
	BRAMY2040592	274	954.. 1943	2462
25	BRAMY2041261	275	124.. 441	2463
	BRAMY2041378	276	199.. 831	2464
	BRAMY2041542	277	2098.. 2412	2465
	BRAMY2042612	278	1319.. 1621	2466
	BRAMY2042641	279	271.. 672	2467
30	BRAMY2042760	280	1306.. 2115	2468
	BRAMY2042918	281	956.. 1354	2469
	BRAMY2044078	282	123.. 569	2470
	BRAMY2044246	283	83.. 436	2471
	BRAMY2045036	284	2746.. 3069	2472
35	BRAMY2046478	285	51.. 359	2473
	BRAMY2046742	286	819.. 1148	2474

	BRAMY2046989	287	47..1594	2475
	BRAMY2047169	288	1622..2083	2476
	BRAMY2047420	289	573..1055	2477
	BRAMY2047676	290	30.. 677	2478
5	BRAMY2047746	291	109..1566	2479
	BRAMY2047751	292	859..2040	2480
	BRAMY2047765	293	2247..2549	2481
	BRAMY2047884	294	873..1199	2482
	BRAMY3000206	295	1072..1689	2483
10	BRAMY3000213	296	2109..2888	2484
	BRAMY3001401	297	109.. 594	2485
	BRAMY3001794	298	51..1322	2486
	BRAMY3002312	299	58.. 372	2487
	BRAMY3002620	300	113..2752	2488
15	BRAMY3002803	301	913..2823	2489
	BRAMY3002805	302	2036..2371	2490
	BRAMY3004224	303	414..1526	2491
	BRAMY3004672	304	1926..2402	2492
	BRAMY3004900	305	165.. 635	2493
20	BRAMY3004919	306	539..3298	2494
	BRAMY3005091	307	592..1311	2495
	BRAMY3005932	308	2455..3075	2496
	BRAMY3006297	309	76.. 456	2497
	BRAMY3007206	310	720..1901	2498
25	BRAMY3007609	311	744..1745	2499
	BRAMY3008466	312	1458..2342	2500
	BRAMY3008505	313	2733..3125	2501
	BRAMY3008650	314	656.. 958	2502
	BRAMY3009811	315	1842..2321	2503
30	BRAMY3010411	316	707..1066	2504
	BRAMY4000095	317	736..2487	2505
	BRAMY4000229	318	1214..1957	2506
	BRAMY4000277	319	1027..2064	2507
	BRASW1000053	320	1315..1632	2508
35	BRASW1000125	321	1099..1443	2509
	BRAWH1000127	322	622..1353	2510

	BRAWH2001395	323	696..1130	2511
	BRAWH2001671	324	1559..2077	2512
	BRAWH2001940	325	172..2208	2513
	BRAWH2001973	326	133.. 498	2514
5	BRAWH2002560	327	176..2476	2515
	BRAWH2002761	328	555..1079	2516
	BRAWH2005315	329	161..1615	2517
	BRAWH2007658	330	45..1148	2518
	BRAWH2010000	331	275..2155	2519
10	BRAWH2010084	332	1682..2191	2520
	BRAWH2010536	333	448..1284	2521
	BRAWH2012162	334	512..2068	2522
	BRAWH2012326	335	115.. 426	2523
	BRAWH2013294	336	762..1148	2524
15	BRAWH2013871	337	756..1151	2525
	BRAWH2014414	338	266..2794	2526
	BRAWH2014645	339	940..1632	2527
	BRAWH2014662	340	285..1706	2528
	BRAWH2014876	341	148.. 840	2529
20	BRAWH2014954	342	377..>2183	2530
	BRAWH2016221	343	1235..1891	2531
	BRAWH2016439	344	2332..2754	2532
	BRAWH2016702	345	1328..2347	2533
	BRAWH2016724	346	846..1292	2534
25	BRAWH3000078	347	290.. 805	2535
	BRAWH3000100	348	3063..5708	2536
	BRAWH3000314	349	1322..3064	2537
	BRAWH3000345	350	1135..1452	2538
	BRAWH3000491	351	590.. 913	2539
30	BRAWH3001326	352	73.. 987	2540
	BRAWH3001475	353	75.. 377	2541
	BRAWH3001891	354	11..1141	2542
	BRAWH3002574	355	1585..2217	2543
	BRAWH3002600	356	104..1795	2544
35	BRAWH3002819	357	2589..3233	2545
	BRAWH3002821	358	383..3064	2546

	BRAWH3003522	359	69.. 554	2547
	BRAWH3003555	360	1048.. 1545	2548
	BRAWH3003727	361	1386.. 1694	2549
	BRAWH3003801	362	2985.. 3470	2550
5	BRAWH3003992	363	2123.. 2677	2551
	BRAWH3004453	364	1891.. 2346	2552
	BRAWH3004666	365	1158.. 1562	2553
	BRAWH3005132	366	2935.. 3333	2554
	BRAWH3005422	367	14.. 535	2555
10	BRAWH3005912	368	1384.. 3516	2556
	BRAWH3005981	369	160.. 2685	2557
	BRAWH3006548	370	2431.. 2760	2558
	BRAWH3006792	371	681.. 1313	2559
	BRAWH3007221	372	854.. 1345	2560
15	BRAWH3007506	373	986.. 1459	2561
	BRAWH3007592	374	2933.. 3331	2562
	BRAWH3007726	375	352.. 780	2563
	BRAWH3007783	376	779.. 1435	2564
	BRAWH3008341	377	1608.. 2198	2565
20	BRAWH3008634	378	1099.. 1515	2566
	BRAWH3008697	379	605.. 1294	2567
	BRAWH3008931	380	11.. 469	2568
	BRAWH3009297	381	1581.. 2141	2569
	BRCAN2002562	382	215.. 880	2570
25	BRCAN2002856	383	380.. 1114	2571
	BRCAN2002944	384	22.. 609	2572
	BRCAN2002948	385	42.. 431	2573
	BRCAN2003703	386	579.. 1157	2574
	BRCAN2003746	387	1773.. 2543	2575
30	BRCAN2003987	388	142.. 447	2576
	BRCAN2004355	389	722.. 1024	2577
	BRCAN2005436	390	45.. 764	2578
	BRCAN2006063	391	547.. 1278	2579
	BRCAN2006290	392	117.. 419	2580
35	BRCAN2006297	393	490.. 999	2581
	BRCAN2006450	394	3.. 320	2582

	BRCAN2007144	395	94. . 636	2583
	BRCAN2007409	396	2280. . >2620	2584
	BRCAN2007426	397	62. . 601	2585
	BRCAN2008528	398	311. . 1231	2586
5	BRCAN2009203	399	1077. . 2408	2587
	BRCAN2009432	400	95. . 646	2588
	BRCAN2010376	401	227. . 571	2589
	BRCAN2011254	402	252. . 557	2590
	BRCAN2011602	403	224. . 748	2591
10	BRCAN2012355	404	467. . 1009	2592
	BRCAN2012481	405	240. . 566	2593
	BRCAN2013655	406	268. . 606	2594
	BRCAN2013660	407	216. . 641	2595
	BRCAN2014143	408	15. . 584	2596
15	BRCAN2014602	409	94. . 870	2597
	BRCAN2014881	410	279. . 758	2598
	BRCAN2015371	411	49. . 432	2599
	BRCAN2015464	412	491. . 955	2600
	BRCAN2016433	413	1679. . 1993	2601
20	BRCAN2016619	414	77. . 2743	2602
	BRCAN2017442	415	82. . 492	2603
	BRCAN2017717	416	63. . 377	2604
	BRCAN2017905	417	38. . 532	2605
	BRCAN2018935	418	156. . 719	2606
25	BRCAN2019387	419	9. . 314	2607
	BRCAN2020710	420	1738. . 2043	2608
	BRCAN2021028	421	94. . 1734	2609
	BRCAN2024451	422	184. . 1227	2610
	BRCAN2024563	423	1. . 384	2611
30	BRCAN2025712	424	780. . 1187	2612
	BRCAN2028355	425	78. . 1805	2613
	BRCOC2000670	426	326. . 628	2614
	BRCOC2001505	427	1470. . 1904	2615
	BRCOC2003213	428	1821. . 3143	2616
35	BRCOC2007034	429	404. . 931	2617
	BRCOC2014033	430	359. . 709	2618

	BRCOC2016525	431	153.. 1997	2619
	BRCOC2019934	432	5.. 385	2620
	BRCOC2020142	433	741.. 1130	2621
	BRHIP2000691	434	1545.. 1910	2622
5	BRHIP2000819	435	1030.. 1611	2623
	BRHIP2000826	436	137.. 442	2624
	BRHIP2000920	437	836.. 1567	2625
	BRHIP2001074	438	553.. 1581	2626
	BRHIP2001805	439	70.. 528	2627
10	BRHIP2001927	440	2.. 340	2628
	BRHIP2002122	441	530.. 1153	2629
	BRHIP2002172	442	673.. 2031	2630
	BRHIP2002346	443	159.. 1097	2631
	BRHIP2003242	444	72.. 575	2632
15	BRHIP2003786	445	199.. 2013	2633
	BRHIP2003917	446	1870.. 2316	2634
	BRHIP2004312	447	1748.. 2200	2635
	BRHIP2004359	448	663.. 2027	2636
	BRHIP2004814	449	642.. 1778	2637
20	BRHIP2004883	450	221.. 526	2638
	BRHIP2005236	451	709.. 1860	2639
	BRHIP2005354	452	569.. 1057	2640
	BRHIP2005600	453	492.. 1187	2641
	BRHIP2005719	454	445.. 909	2642
25	BRHIP2005752	455	876.. 1919	2643
	BRHIP2005932	456	212.. 652	2644
	BRHIP2006800	457	178.. 774	2645
	BRHIP2007616	458	136.. 1614	2646
	BRHIP2007741	459	811.. 1122	2647
30	BRHIP2009340	460	72.. 374	2648
	BRHIP2009414	461	828.. 1541	2649
	BRHIP2009474	462	38.. 469	2650
	BRHIP2013699	463	816.. 1328	2651
	BRHIP2014228	464	444.. 869	2652
35	BRHIP2021615	465	282.. 1310	2653
	BRHIP2022221	466	2101.. 2478	2654

	BRHIP2024146	467	177.. 539	2655
	BRHIP2024165	468	923.. 1294	2656
	BRHIP2026061	469	282.. 1022	2657
	BRHIP2026288	470	668.. 1681	2658
5	BRHIP2029176	471	778.. 1224	2659
	BRHIP2029393	472	2401.. 2931	2660
	BRHIP3000339	473	2793.. 3227	2661
	BRHIP3000526	474	107.. 2830	2662
	BRHIP3001283	475	626.. 1645	2663
10	BRHIP3006683	476	292.. 630	2664
	BRHIP3007483	477	2669.. 3082	2665
	BRHIP3007586	478	1409.. 2047	2666
	BRHIP3008183	479	607.. 3861	2667
	BRHIP3008313	480	1604.. 2353	2668
15	BRHIP3008344	481	1878.. 3719	2669
	BRHIP3008405	482	2679.. 3668	2670
	BRHIP3008565	483	1696.. 2055	2671
	BRHIP3008598	484	612.. 1079	2672
	BRHIP3008997	485	1196.. 1579	2673
20	BRHIP3009099	486	74.. 892	2674
	BRHIP3009448	487	2785.. 3354	2675
	BRHIP3011241	488	220.. 642	2676
	BRHIP3013765	489	91.. 486	2677
	BRHIP3013897	490	2340.. 2843	2678
25	BRHIP3015751	491	2103.. 2516	2679
	BRHIP3016213	492	402.. 1202	2680
	BRHIP3018797	493	2687.. 3004	2681
	BRHIP3020182	494	1515.. 2087	2682
	BRHIP3024118	495	67.. 1131	2683
30	BRHIP3024533	496	236.. >3741	2684
	BRHIP3024725	497	1840.. 4176	2685
	BRHIP3025161	498	225.. 4517	2686
	BRHIP3025702	499	3307.. 3609	2687
	BRHIP3026097	500	1387.. 1773	2688
35	BRHIP3027137	501	261.. 1673	2689
	BRHIP3027854	502	2503.. 3213	2690

	BRSSN2000684	503	166.. >1937	2691
	BRSSN2003086	504	1.. 342	2692
	BRSSN2004496	505	303.. 1469	2693
	BRSSN2004719	506	62.. 784	2694
5	BRSSN2006892	507	1899.. 2396	2695
	BRSSN2008549	508	563.. 1564	2696
	BRSSN2008797	509	57.. 1571	2697
	BRSSN2011262	510	326.. 694	2698
	BRSSN2011738	511	1587.. 1928	2699
10	BRSSN2013874	512	1430.. 1894	2700
	BRSSN2014299	513	641.. 1855	2701
	BRSSN2014424	514	861.. 2201	2702
	BRSSN2014556	515	359.. 679	2703
	BRSSN2018581	516	1440.. 1757	2704
15	BRSSN2018925	517	31.. 372	2705
	BRSTN2000872	518	537.. 1649	2706
	BRSTN2001067	519	698.. 1048	2707
	BRSTN2001613	520	98.. 754	2708
	BRSTN2002400	521	82.. 1170	2709
20	BRSTN2003835	522	25.. 420	2710
	BRSTN2004863	523	438.. 2264	2711
	BRSTN2004987	524	11.. 1093	2712
	BRSTN2005721	525	415.. 1302	2713
	BRSTN2006865	526	693.. 1559	2714
25	BRSTN2007000	527	115.. 492	2715
	BRSTN2007284	528	96.. 608	2716
	BRSTN2008052	529	133.. 483	2717
	BRSTN2008283	530	179.. 484	2718
	BRSTN2008418	531	468.. 1013	2719
30	BRSTN2008457	532	942.. 1331	2720
	BRSTN2009899	533	707.. 1135	2721
	BRSTN2010363	534	1125.. 1901	2722
	BRSTN2010500	535	703.. 1134	2723
	BRSTN2010750	536	247.. 1290	2724
35	BRSTN2012320	537	300.. 686	2725
	BRSTN2012380	538	1068.. 1439	2726

	BRSTN2013741	539	648..1274	2727
	BRSTN2015015	540	1290..1610	2728
	BRSTN2016470	541	479.. 814	2729
	BRSTN2016678	542	97.. 486	2730
5	BRSTN2017084	543	53.. 397	2731
	BRSTN2017110	544	128.. 562	2732
	BRSTN2017237	545	42.. 1466	2733
	BRSTN2017771	546	1018..1332	2734
	BRSTN2018083	547	309.. 641	2735
10	BRSTN2019129	548	1004..1459	2736
	BRTHA1000311	549	210.. 680	2737
	BRTHA2000855	550	149.. >2176	2738
	BRTHA2001462	551	710..1555	2739
	BRTHA2002115	552	947..1267	2740
15	BRTHA2002281	553	856..1767	2741
	BRTHA2002376	554	124.. 513	2742
	BRTHA2002442	555	28.. 630	2743
	BRTHA2002493	556	400.. 735	2744
	BRTHA2002608	557	1100..1495	2745
20	BRTHA2002808	558	1010..1456	2746
	BRTHA2003030	559	501.. 875	2747
	BRTHA2003110	560	1429..2010	2748
	BRTHA2003116	561	78.. 476	2749
	BRTHA2003461	562	2179..2709	2750
25	BRTHA2004821	563	1764..2273	2751
	BRTHA2004978	564	125.. 937	2752
	BRTHA2005579	565	44.. 2488	2753
	BRTHA2005956	566	1466..1882	2754
	BRTHA2006075	567	591.. 995	2755
30	BRTHA2006146	568	24.. 569	2756
	BRTHA2006194	569	129.. 506	2757
	BRTHA2007122	570	297..2267	2758
	BRTHA2007422	571	114.. 632	2759
	BRTHA2007603	572	534.. 962	2760
35	BRTHA2008316	573	124.. 429	2761
	BRTHA2008335	574	1205..1747	2762

	BRTHA2008527	575	54.. 680	2763
	BRTHA2008535	576	2076.. 2597	2764
	BRTHA2008955	577	427.. 1395	2765
	BRTHA2009311	578	47.. 502	2766
5	BRTHA2009846	579	492.. 881	2767
	BRTHA2009972	580	134.. 493	2768
	BRTHA2010073	581	1064.. 1399	2769
	BRTHA2010608	582	926.. 1354	2770
	BRTHA2010884	583	76.. 1305	2771
10	BRTHA2010907	584	78.. 806	2772
	BRTHA2011194	585	2370.. 2720	2773
	BRTHA2011351	586	18.. 905	2774
	BRTHA2011500	587	123.. 476	2775
	BRTHA2011641	588	47.. 562	2776
15	BRTHA2012392	589	1425.. 2021	2777
	BRTHA2012562	590	1649.. 1963	2778
	BRTHA2012980	591	610.. 1290	2779
	BRTHA2013262	592	138.. 794	2780
	BRTHA2013460	593	379.. 732	2781
20	BRTHA2013707	594	244.. 657	2782
	BRTHA2014792	595	221.. 1663	2783
	BRTHA2014828	596	667.. 1158	2784
	BRTHA2015406	597	162.. 1583	2785
	BRTHA2015478	598	111.. 419	2786
25	BRTHA2015696	599	1109.. 1657	2787
	BRTHA2015878	600	433.. 1902	2788
	BRTHA2016215	601	1831.. 2280	2789
	BRTHA2016496	602	76.. 1527	2790
	BRTHA2016543	603	310.. 636	2791
30	BRTHA2017353	604	68.. 1027	2792
	BRTHA2017985	605	166.. 474	2793
	BRTHA2018165	606	1224.. 1550	2794
	BRTHA2018344	607	1064.. 1402	2795
	BRTHA2018591	608	515.. 1195	2796
35	BRTHA2018624	609	1253.. 2293	2797
	BRTHA2018707	610	1333.. 1791	2798

	BRTHA2019014	611	134.. 451	2799
	BRTHA2019022	612	189.. 494	2800
	BRTHA2019048	613	52.. 549	2801
	BRTHA3000273	614	128.. 694	2802
5	BRTHA3000297	615	1553.. 2083	2803
	BRTHA3000633	616	40.. 858	2804
	BRTHA3001721	617	382.. 963	2805
	BRTHA3002401	618	944.. 1396	2806
	BRTHA3002427	619	871.. 2589	2807
10	BRTHA3002933	620	835.. 1908	2808
	BRTHA3003074	621	545.. 2050	2809
	BRTHA3003343	622	1938.. 2639	2810
	BRTHA3003449	623	1281.. 2612	2811
	BRTHA3003474	624	6.. 410	2812
15	BRTHA3003490	625	22.. 3783	2813
	BRTHA3004475	626	1777.. 2196	2814
	BRTHA3005046	627	14.. 415	2815
	BRTHA3006856	628	241.. 624	2816
	BRTHA3007113	629	656.. 1657	2817
20	BRTHA3007148	630	70.. 960	2818
	BRTHA3007319	631	1348.. 1995	2819
	BRTHA3007769	632	17.. 4579	2820
	BRTHA3008143	633	1649.. 1987	2821
	BRTHA3008310	634	1333.. 2673	2822
25	BRTHA3008386	635	599.. 1921	2823
	BRTHA3008520	636	1670.. 2659	2824
	BRTHA3008778	637	1533.. 3353	2825
	BRTHA3009037	638	175.. 3441	2826
	BRTHA3009090	639	188.. 4141	2827
30	BRTHA3009291	640	174.. 782	2828
	BRTHA3010366	641	1998.. 3029	2829
	BRTHA3013884	642	1085.. 3331	2830
	BRTHA3015815	643	1172.. 2122	2831
	BRTHA3015910	644	944.. 2899	2832
35	BRTHA3016845	645	403.. 771	2833
	BRTHA3016917	646	1674.. 3179	2834

	BRTHA3017047	647	146..1060	2835
	BRTHA3017589	648	14.. 793	2836
	BRTHA3017848	649	218..1342	2837
	BRTHA3018514	650	416..1567	2838
5	BRTHA3018617	651	28.. 522	2839
	BRTHA3018656	652	247..1338	2840
	BRTHA3019105	653	266.. 682	2841
	CERVX1000042	654	3.. 536	2842
	CERVX2002006	655	874..1257	2843
10	COLON1000030	656	607..1170	2844
	COLON2000470	657	9.. 656	2845
	COLON2000568	658	73..1506	2846
	COLON2001721	659	1274..1981	2847
	COLON2002443	660	13.. 447	2848
15	COLON2002520	661	1243..>3130	2849
	COLON2003043	662	3.. 311	2850
	COLON2004478	663	81..1565	2851
	COLON2005126	664	244.. 747	2852
	COLON2005772	665	286.. 816	2853
20	COLON2006282	666	200.. 505	2854
	COLON2009499	667	13.. 345	2855
	CORDB1000140	668	346.. 897	2856
	CORDB2000061	669	12.. 329	2857
	CORDB2000541	670	495..1277	2858
25	CTONG1000087	671	194..2326	2859
	CTONG1000088	672	2902..3252	2860
	CTONG1000288	673	1315..1875	2861
	CTONG1000302	674	168.. 485	2862
	CTONG1000341	675	29..1702	2863
30	CTONG1000467	676	90..2312	2864
	CTONG1000488	677	2227..2892	2865
	CTONG1000508	678	1182..2615	2866
	CTONG1000540	679	778..1428	2867
	CTONG2000042	680	75..2603	2868
35	CTONG2001877	681	11.. 721	2869
	CTONG2004062	682	121..2268	2870

	CTONG2006798	683	423..>2466	2871
	CTONG2008233	684	655..1893	2872
	CTONG2009423	685	1433..1774	2873
	CTONG2009531	686	49.. 543	2874
5	CTONG2010803	687	1352..2464	2875
	CTONG2013178	688	50..1366	2876
	CTONG2017500	689	57.. 878	2877
	CTONG2019248	690	3528..3938	2878
	CTONG2019652	691	229.. 540	2879
10	CTONG2019704	692	176.. 799	2880
	CTONG2019788	693	1985..2311	2881
	CTONG2019833	694	1026..1328	2882
	CTONG2020026	695	152..2845	2883
	CTONG2020127	696	1343..1774	2884
15	CTONG2020522	697	191.. 586	2885
	CTONG2020638	698	159.. 986	2886
	CTONG2020806	699	436.. 933	2887
	CTONG2021132	700	1883..2233	2888
	CTONG2022153	701	341.. 787	2889
20	CTONG2022601	702	1301..1621	2890
	CTONG2023021	703	2277..2840	2891
	CTONG2023512	704	311..1624	2892
	CTONG2024206	705	322..2499	2893
	CTONG2024749	706	129..2198	2894
25	CTONG2025496	707	151..3015	2895
	CTONG2025516	708	459.. 773	2896
	CTONG2025900	709	135..2399	2897
	CTONG2026920	710	363.. 689	2898
	CTONG2027327	711	396.. 719	2899
30	CTONG2028124	712	761..2683	2900
	CTONG2028687	713	654..1967	2901
	CTONG3000084	714	1..3111	2902
	CTONG3000657	715	31.. 732	2903
	CTONG3000686	716	2605..3294	2904
35	CTONG3000707	717	2912..3265	2905
	CTONG3000896	718	3245..3676	2906

	CTONG3001123	719	285.. 3392	2907
	CTONG3001370	720	26.. 3922	2908
	CTONG3001420	721	536.. 850	2909
	CTONG3001560	722	19.. 450	2910
5	CTONG3002020	723	242.. 673	2911
	CTONG3002127	724	1264.. 2604	2912
	CTONG3002412	725	1782.. >3812	2913
	CTONG3002674	726	258.. >4088	2914
	CTONG3003179	727	2650.. 3144	2915
10	CTONG3003483	728	3006.. 3332	2916
	CTONG3003652	729	229.. 3372	2917
	CTONG3003654	730	1865.. 2263	2918
	CTONG3003737	731	87.. 1832	2919
	CTONG3003905	732	75.. 3833	2920
15	CTONG3003972	733	203.. 2167	2921
	CTONG3004072	734	110.. 3784	2922
	CTONG3004712	735	3159.. 3890	2923
	CTONG3005325	736	210.. 3044	2924
	CTONG3005648	737	180.. 1061	2925
20	CTONG3005713	738	42.. 902	2926
	CTONG3005813	739	173.. 991	2927
	CTONG3006067	740	194.. 583	2928
	CTONG3006186	741	208.. 1869	2929
	CTONG3006650	742	299.. 649	2930
25	CTONG3007444	743	1638.. 2039	2931
	CTONG3007528	744	177.. 962	2932
	CTONG3007586	745	27.. 3089	2933
	CTONG3007870	746	1402.. 2064	2934
	CTONG3008252	747	216.. 572	2935
30	CTONG3008258	748	194.. 2320	2936
	CTONG3008496	749	1412.. 1774	2937
	CTONG3008566	750	2577.. 3113	2938
	CTONG3008639	751	102.. >4092	2939
	CTONG3008831	752	198.. 3077	2940
35	CTONG3008894	753	1230.. 2411	2941
	CTONG3008951	754	3010.. 3438	2942

	CTONG3009028	755	25..3954	2943
	CTONG3009227	756	1948..2337	2944
	CTONG3009239	757	2907..3275	2945
	CTONG3009328	758	101..1291	2946
5	CTONG3009385	759	795..2390	2947
	D30ST2002182	760	79..1308	2948
	D30ST2002648	761	215..1225	2949
	D30ST3000169	762	83..1204	2950
	DFNES1000107	763	651..986	2951
10	DFNES2000146	764	56..520	2952
	DFNES2001108	765	435..854	2953
	DFNES2005266	766	285..926	2954
	DFNES2010502	767	108..479	2955
	DFNES2011239	768	80..1081	2956
15	DFNES2011499	769	206..595	2957
	ERLTF2000324	770	66..641	2958
	FCBBF1000297	771	1409..>2811	2959
	FCBBF2001183	772	951..1559	2960
	FCBBF2007510	773	474..1082	2961
20	FCBBF3001977	774	1167..1535	2962
	FCBBF3002163	775	86..2905	2963
	FCBBF3003435	776	618..926	2964
	FCBBF3004502	777	145..2565	2965
	FCBBF3004847	778	378..830	2966
25	FCBBF3006171	779	599..913	2967
	FCBBF3007242	780	93..416	2968
	FCBBF3007540	781	307..1269	2969
	FCBBF3008944	782	772..1377	2970
	FCBBF3009888	783	103..597	2971
30	FCBBF3012170	784	89..1054	2972
	FCBBF3012288	785	1881..2906	2973
	FCBBF3013307	786	300..>2766	2974
	FCBBF3013846	787	2050..2673	2975
	FCBBF3021576	788	304..678	2976
35	FCBBF3021940	789	353..772	2977
	FCBBF3023443	790	1109..1495	2978

	FCBBF3023895	791	702..1409	2979
	FCBBF3025730	792	333.. 941	2980
	FCBBF3027717	793	218..>4477	2981
	FCBBF4000076	794	225.. 566	2982
5	FEBRA1000030	795	735..1358	2983
	FEBRA2000253	796	1692..2822	2984
	FEBRA2006396	797	442..1521	2985
	FEBRA2007544	798	321..1874	2986
	FEBRA2007708	799	356..1981	2987
10	FEBRA2007793	800	407.. 973	2988
	FEBRA2007801	801	362..2185	2989
	FEBRA2008287	802	1110..2531	2990
	FEBRA2008311	803	80..1339	2991
	FEBRA2008360	804	428.. 997	2992
15	FEBRA2008468	805	291..1496	2993
	FEBRA2010719	806	348.. 995	2994
	FEBRA2014213	807	407..1483	2995
	FEBRA2015588	808	1131..1916	2996
	FEBRA2020484	809	1160..1615	2997
20	FEBRA2020582	810	289.. 729	2998
	FEBRA2020668	811	787..1839	2999
	FEBRA2020886	812	1749..2342	3000
	FEBRA2021339	813	441.. 914	3001
	FEBRA2021571	814	566..1591	3002
25	FEBRA2021908	815	181.. 588	3003
	FEBRA2021966	816	102.. 476	3004
	FEBRA2024136	817	2261..2638	3005
	FEBRA2024150	818	15.. 950	3006
	FEBRA2024343	819	2284..3036	3007
30	FEBRA2024744	820	918..1781	3008
	FEBRA2025427	821	201.. 548	3009
	FEBRA2026984	822	910..2496	3010
	FEBRA2027082	823	174.. 509	3011
	FEBRA2027297	824	1040..1396	3012
35	FEBRA2027352	825	604..1065	3013
	FEBRA2028366	826	5.. 994	3014

	FEBRA2028477	827	2176..2685	3015
	FEBRA2028618	828	587..1054	3016
	HCASM2001301	829	628..1050	3017
	HCASM2002502	830	112.. 942	3018
5	HCASM2002918	831	292..>1851	3019
	HCASM2003212	832	304.. 6	3020
	HCASM2003415	833	23.. 3	3021
	HCASM2007047	834	79..2250	3022
	HCASM2007737	835	54.. 548	3023
10	HCHON2000028	836	32..2239	3024
	HCHON2000212	837	1713..2087	3025
	HCHON2000244	838	698..1528	3026
	HCHON2000418	839	1185..1487	3027
	HCHON2000626	840	1168..1578	3028
15	HCHON2001084	841	164..2017	3029
	HCHON2001217	842	169..2856	3030
	HCHON2001548	843	1460..1942	3031
	HCHON2001577	844	14..1726	3032
	HCHON2001712	845	143..1624	3033
20	HCHON2002676	846	42..2069	3034
	HCHON2003532	847	614..1618	3035
	HCHON2004007	848	181..1917	3036
	HCHON2004531	849	299..1528	3037
	HCHON2004776	850	158..1723	3038
25	HCHON2005921	851	174.. 860	3039
	HCHON2006250	852	517..2151	3040
	HCHON2006714	853	51.. 371	3041
	HCHON2007881	854	77..1801	3042
	HCHON2008112	855	929..1462	3043
30	HCHON2008444	856	1810..2112	3044
	HEART1000010	857	967..1296	3045
	HEART1000074	858	151..1626	3046
	HEART1000088	859	1567..2016	3047
	HEART1000139	860	1408..2106	3048
35	HEART2001680	861	59..1549	3049
	HEART2001756	862	155..1795	3050

	HEART2006131	863	8. . 1717	3051
	HEART2006909	864	4. . 927	3052
	HEART2007031	865	106. . 1374	3053
	HEART2010391	866	619. . 1173	3054
5	HEART2010492	867	91. . 1617	3055
	HEART2010495	868	148. . >2295	3056
	HHDPC1000118	869	258. . 2489	3057
	HHDPC2001337	870	210. . 566	3058
	HLUNG1000017	871	227. . 1054	3059
10	HLUNG2000014	872	175. . 816	3060
	HLUNG2001996	873	990. . 1562	3061
	HLUNG2002465	874	72. . 1796	3062
	HLUNG2002958	875	123. . 2234	3063
	HLUNG2003003	876	459. . 848	3064
15	HLUNG2003872	877	542. . 1366	3065
	HLUNG2010464	878	256. . 972	3066
	HLUNG2011041	879	721. . 1422	3067
	HLUNG2011298	880	1669. . 1983	3068
	HLUNG2012049	881	264. . 755	3069
20	HLUNG2012287	882	789. . 1139	3070
	HLUNG2012727	883	198. . 1046	3071
	HLUNG2013204	884	1196. . 1513	3072
	HLUNG2013304	885	329. . 649	3073
	HLUNG2013622	886	123. . 440	3074
25	HLUNG2013851	887	224. . 787	3075
	HLUNG2014262	888	189. . 1886	3076
	HLUNG2014288	889	192. . 1106	3077
	HLUNG2014449	890	2235. . >2713	3078
	HLUNG2015617	891	1630. . 1968	3079
30	HLUNG2017350	892	879. . 1766	3080
	HLUNG2017546	893	1666. . 2070	3081
	HLUNG2017806	894	29. . 577	3082
	HLUNG2019058	895	239. . 568	3083
	HSYRA2004858	896	150. . 467	3084
35	HSYRA2005456	897	61. . 2415	3085
	HSYRA2005496	898	36. . 1211	3086

	HSYRA2006873	899	590.. 910	3087
	HSYRA2007667	900	424.. 1281	3088
	HSYRA2008376	901	329.. 2422	3089
	HSYRA2008714	902	249.. 1487	3090
5	HSYRA2009075	903	237.. 2204	3091
	HSYRA2009102	904	119.. 1357	3092
	IMR322000127	905	847.. 2271	3093
	IMR322000917	906	287.. 1000	3094
	IMR322001380	907	14.. 790	3095
10	IMR322002035	908	2228.. 2620	3096
	IMR322002110	909	176.. 553	3097
	IMR322003675	910	202.. 978	3098
	IMR322006222	911	516.. 845	3099
	IMR322006495	912	63.. 749	3100
15	IMR322006886	913	565.. 1224	3101
	IMR322007225	914	24.. 467	3102
	IMR322016146	915	112.. 426	3103
	IMR322018117	916	37.. 528	3104
	KIDNE1000064	917	302.. 1963	3105
20	KIDNE2000665	918	379.. 735	3106
	KIDNE2000722	919	227.. 571	3107
	KIDNE2000832	920	103.. 1554	3108
	KIDNE2000846	921	23.. 700	3109
	KIDNE2001361	922	953.. 2056	3110
25	KIDNE2001847	923	86.. 1240	3111
	KIDNE2002252	924	96.. 2543	3112
	KIDNE2002991	925	644.. 952	3113
	KIDNE2003837	926	1732.. 2073	3114
	KIDNE2005543	927	2011.. 2484	3115
30	KIDNE2006580	928	40.. 1617	3116
	KIDNE2010264	929	640.. 1158	3117
	KIDNE2011314	930	796.. 1098	3118
	KIDNE2011532	931	1097.. 1636	3119
	KIDNE2011635	932	148.. 2376	3120
35	KIDNE2012945	933	301.. 1407	3121
	KIDNE2013095	934	162.. 749	3122

	LIVER2007415	935	308.. 1144	3123
	LYMPB1000141	936	85.. 396	3124
	LYMPB2000083	937	35.. 1084	3125
	MESAN2001979	938	1199.. 1855	3126
5	MESAN2006563	939	264.. 1670	3127
	MESAN2012054	940	24.. 1892	3128
	MESAN2014295	941	1349.. 1687	3129
	MESAN2015515	942	381.. 803	3130
	MESAN2018576	943	65.. 370	3131
10	MESTC1000042	944	235.. 738	3132
	MESTC2000153	945	350.. 820	3133
	NB9N41000340	946	625.. 1032	3134
	NCRRP1000129	947	147.. 521	3135
	NESOP2000744	948	652.. 1020	3136
15	NESOP2001433	949	81.. 1580	3137
	NESOP2001656	950	369.. 707	3138
	NESOP2001694	951	240.. 731	3139
	NESOP2001752	952	624.. 935	3140
	NESOP2002738	953	1342.. 1890	3141
20	NHNPC2000606	954	1635.. 1949	3142
	NHNPC2000877	955	27.. 443	3143
	NHNPC2001223	956	2476.. 2790	3144
	NHNPC2001816	957	1053.. 1421	3145
	NHNPC2002565	958	463.. 1134	3146
25	NHNPC2002749	959	81.. 605	3147
	NOVAR2000136	960	174.. 1481	3148
	NOVAR2000710	961	59.. 466	3149
	NOVAR2000962	962	25.. 393	3150
	NOVAR2001108	963	49.. 1482	3151
30	NOVAR2001783	964	44.. 490	3152
	NT2NE2003252	965	889.. 1899	3153
	NT2NE2005890	966	435.. 740	3154
	NT2NE2006531	967	295.. 1812	3155
	NT2NE2006909	968	661.. 1647	3156
35	NT2NE2008060	969	1027.. 1404	3157
	NT2RI2003993	970	600.. 1136	3158

	NT2RI2004618	971	495..1253	3159
	NT2RI2005166	972	60..1436	3160
	NT2RI2006686	973	14..1909	3161
	NT2RI2008724	974	289..1917	3162
5	NT2RI2009855	975	1615..2283	3163
	NT2RI2011422	976	110..1543	3164
	NT2RI2011683	977	206..754	3165
	NT2RI2012659	978	100..528	3166
	NT2RI2012990	979	85..561	3167
10	NT2RI2013357	980	287..877	3168
	NT2RI2014247	981	1608..1967	3169
	NT2RI2014551	982	52..>2076	3170
	NT2RI2014733	983	638..1204	3171
	NT2RI2016128	984	173..589	3172
15	NT2RI2018311	985	680..1345	3173
	NT2RI2018883	986	316..846	3174
	NT2RI2019751	987	357..743	3175
	NT2RI2023303	988	1041..1451	3176
	NT2RI2025909	989	208..1119	3177
20	NT2RI2025957	990	348..2432	3178
	NT2RI2027081	991	1254..1586	3179
	NT2RI2027396	992	109..426	3180
	NT2RI3000622	993	305..964	3181
	NT2RI3001263	994	2825..3241	3182
25	NT2RI3001515	995	857..3373	3183
	NT2RI3002303	996	2269..2613	3184
	NT2RI3002842	997	50..934	3185
	NT2RI3002892	998	3..311	3186
	NT2RI3003031	999	111..413	3187
30	NT2RI3003095	1000	1032..1412	3188
	NT2RI3003162	1001	865..1353	3189
	NT2RI3003382	1002	600..2642	3190
	NT2RI3003409	1003	2744..3340	3191
	NT2RI3004381	1004	2637..3314	3192
35	NT2RI3004510	1005	178..1950	3193
	NT2RI3005202	1006	132..659	3194

	NT2R13005403	1007	366..1073	3195
	NT2R13005724	1008	194.. 637	3196
	NT2R13006132	1009	82.. 684	3197
	NT2R13006171	1010	300..1211	3198
5	NT2R13006284	1011	154..1911	3199
	NT2R13006340	1012	335..5392	3200
	NT2R13006376	1013	152..4081	3201
	NT2R13006673	1014	197..3997	3202
	NT2R13006796	1015	1047..1427	3203
10	NT2R13007065	1016	1707..2096	3204
	NT2R13007158	1017	656..>4499	3205
	NT2R13007291	1018	10..1614	3206
	NT2R13007543	1019	54..4181	3207
	NT2R13007757	1020	225..>5460	3208
15	NT2R13007978	1021	745..2505	3209
	NT2R13008055	1022	2452..2838	3210
	NT2R13008162	1023	81..2354	3211
	NT2R13008652	1024	179..2323	3212
	NT2R13008697	1025	334..1515	3213
20	NT2R13008974	1026	949..1434	3214
	NT2R13009158	1027	228..1286	3215
	NT2RP7000359	1028	48..3902	3216
	NT2RP7000466	1029	72..2987	3217
	NT2RP7004027	1030	507..1787	3218
25	NT2RP7004123	1031	638..1516	3219
	NT2RP7005118	1032	108..3179	3220
	NT2RP7005529	1033	156..2531	3221
	NT2RP7005846	1034	1536..2180	3222
	NT2RP7009030	1035	732..1199	3223
30	NT2RP7009147	1036	434..>2686	3224
	NT2RP7009867	1037	880..1317	3225
	NT2RP7010128	1038	264.. 755	3226
	NT2RP7010599	1039	988..2160	3227
	NT2RP7011570	1040	1694..2017	3228
35	NT2RP7013795	1041	284..1117	3229
	NT2RP7014005	1042	375..2135	3230

	NT2RP7015512	1043	2441..2863	3231
	NT2RP7017365	1044	5.. 349	3232
	NT2RP7017474	1045	234..1598	3233
	NT2RP7017546	1046	182..1018	3234
5	NT2RP8000137	1047	1335..1673	3235
	NT2RP8000296	1048	911..2878	3236
	NT2RP8000483	1049	2903..4729	3237
	NTONG2000413	1050	331..1863	3238
	NTONG2003852	1051	341..1087	3239
10	NTONG2005277	1052	293..2059	3240
	NTONG2005969	1053	1128..1436	3241
	NTONG2006354	1054	96.. 674	3242
	NTONG2007249	1055	439..1386	3243
	NTONG2007517	1056	34.. 930	3244
15	NTONG2008088	1057	133.. 468	3245
	NTONG2008672	1058	37..2067	3246
	OCBBF1000254	1059	203.. 514	3247
	OCBBF2001794	1060	23.. 454	3248
	OCBBF2002124	1061	2496..2807	3249
20	OCBBF2003819	1062	1788..>2890	3250
	OCBBF2004826	1063	304..>4404	3251
	OCBBF2004883	1064	1087..1803	3252
	OCBBF2005428	1065	1010..1369	3253
	OCBBF2006005	1066	107..2752	3254
25	OCBBF2006058	1067	143.. 568	3255
	OCBBF2006151	1068	53.. 817	3256
	OCBBF2006567	1069	2568..2924	3257
	OCBBF2006764	1070	157..2571	3258
	OCBBF2007028	1071	1589..2572	3259
30	OCBBF2007068	1072	108..3338	3260
	OCBBF2007114	1073	589.. 963	3261
	OCBBF2007428	1074	177.. 527	3262
	OCBBF2007478	1075	2014..2361	3263
	OCBBF2007610	1076	1229..1963	3264
35	OCBBF2008770	1077	224..2677	3265
	OCBBF2009788	1078	18.. 371	3266

	OCBBF2009926	1079	734..1177	3267
	OCBBF2010140	1080	66..2459	3268
	OCBBF2010416	1081	1243..>3531	3269
	OCBBF2017516	1082	459.. 860	3270
5	OCBBF2019327	1083	221.. 553	3271
	OCBBF2019823	1084	798..1796	3272
	OCBBF2020343	1085	293.. 859	3273
	OCBBF2020453	1086	168.. 488	3274
	OCBBF2020639	1087	907..1248	3275
10	OCBBF2020741	1088	962..1555	3276
	OCBBF2020801	1089	1544..2017	3277
	OCBBF2020838	1090	593..1819	3278
	OCBBF2021020	1091	1232..2206	3279
	OCBBF2021286	1092	86.. 787	3280
15	OCBBF2021323	1093	8.. 538	3281
	OCBBF2021788	1094	19..2793	3282
	OCBBF2022351	1095	157..1443	3283
	OCBBF2022574	1096	362.. 769	3284
	OCBBF2023162	1097	222.. 536	3285
20	OCBBF2023643	1098	1236..1658	3286
	OCBBF2024719	1099	658.. 999	3287
	OCBBF2024781	1100	358.. 987	3288
	OCBBF2024850	1101	329.. 652	3289
	OCBBF2025028	1102	431..1504	3290
25	OCBBF2025458	1103	10.. 486	3291
	OCBBF2025527	1104	627.. 980	3292
	OCBBF2025730	1105	614.. 949	3293
	OCBBF2026645	1106	1905..2216	3294
	OCBBF2027423	1107	25.. 360	3295
30	OCBBF2027478	1108	1362..1796	3296
	OCBBF2028173	1109	764..1723	3297
	OCBBF2028935	1110	76.. 432	3298
	OCBBF2029901	1111	357.. 836	3299
	OCBBF2030354	1112	261..1646	3300
35	OCBBF2030517	1113	1378..1842	3301
	OCBBF2030574	1114	54.. 605	3302

	OCBBF2030708	1115	409..2361	3303
	OCBBF2031167	1116	31..>2709	3304
	OCBBF2031366	1117	1696..2055	3305
	OCBBF2032590	1118	395..1021	3306
5	OCBBF2032599	1119	30.. 371	3307
	OCBBF2032611	1120	1.. 354	3308
	OCBBF2032671	1121	960..1355	3309
	OCBBF2033869	1122	882..1355	3310
	OCBBF2035110	1123	1534..3426	3311
10	OCBBF2035214	1124	342.. 644	3312
	OCBBF2035564	1125	321..2228	3313
	OCBBF2035885	1126	76.. 420	3314
	OCBBF2035916	1127	1859..2524	3315
	OCBBF2036476	1128	1103..1873	3316
15	OCBBF2036743	1129	526..2445	3317
	OCBBF2037068	1130	318..1067	3318
	OCBBF2037340	1131	526..>3404	3319
	OCBBF2037398	1132	286.. 651	3320
	OCBBF2037547	1133	54..3860	3321
20	OCBBF2037598	1134	1515..>3057	3322
	OCBBF2037638	1135	754..2043	3323
	OCBBF2038317	1136	183..3575	3324
	OCBBF3000296	1137	1505..2095	3325
	OCBBF3000483	1138	37.. 471	3326
25	OCBBF3002553	1139	27.. 581	3327
	OCBBF3002600	1140	2661..3005	3328
	OCBBF3003320	1141	20..1000	3329
	OCBBF3003592	1142	86..2827	3330
	OCBBF3004314	1143	687..1187	3331
30	OCBBF3006802	1144	236.. 625	3332
	OCBBF3007516	1145	1479..1829	3333
	OCBBF3008230	1146	2923..>3428	3334
	OCBBF3009279	1147	34..1065	3335
	PEBLM2000170	1148	434.. 811	3336
35	PEBLM2000338	1149	1419..1865	3337
	PEBLM2001465	1150	856..1374	3338

	PEBLM2001488	1151	325.. 732	3339
	PEBLM2002594	1152	688.. 2121	3340
	PEBLM2002749	1153	275.. 820	3341
	PEBLM2002887	1154	948.. 1301	3342
5	PEBLM2004497	1155	502.. 888	3343
	PEBLM2004666	1156	139.. 2397	3344
	PEBLM2005183	1157	9.. 2426	3345
	PEBLM2005697	1158	408.. 734	3346
	PEBLM2006113	1159	29.. 421	3347
10	PEBLM2007112	1160	243.. 704	3348
	PEBLM2007140	1161	267.. 629	3349
	PEBLM2007834	1162	177.. 539	3350
	PERIC1000147	1163	83.. >2669	3351
	PERIC2000889	1164	1483.. 2079	3352
15	PERIC2000914	1165	1557.. 1901	3353
	PERIC2001227	1166	936.. 1253	3354
	PERIC2001228	1167	2.. 754	3355
	PERIC2002766	1168	64.. 384	3356
	PERIC2003090	1169	158.. 802	3357
20	PERIC2003452	1170	1555.. 1890	3358
	PERIC2003699	1171	100.. 435	3359
	PERIC2003720	1172	640.. 1512	3360
	PERIC2003834	1173	103.. 531	3361
	PERIC2004028	1174	751.. 1212	3362
25	PERIC2004259	1175	1686.. 2042	3363
	PERIC2004379	1176	55.. 483	3364
	PERIC2004429	1177	12.. 377	3365
	PERIC2004909	1178	32.. 334	3366
	PERIC2005347	1179	26.. 499	3367
30	PERIC2005370	1180	13.. 1041	3368
	PERIC2006035	1181	1.. 1134	3369
	PERIC2007914	1182	1492.. 2073	3370
	PERIC20083°5	1183	348.. 722	3371
	PERIC2009086	1184	202.. 1749	3372
35	PLACE5000001	1185	2536.. 3036	3373
	PLACE5000171	1186	334.. 2940	3374

	PLACE5000260	1187	242.. 742	3375
	PLACE5000282	1188	60.. 1739	3376
	PLACE6001185	1189	765.. 1337	3377
	PLACE6009006	1190	1018.. 1518	3378
5	PLACE6012574	1191	368.. 1984	3379
	PLACE6019385	1192	617.. 1360	3380
	PLACE6019932	1193	20.. 847	3381
	PLACE6020031	1194	228.. 1586	3382
	PLACE7000514	1195	17.. 1246	3383
10	PLACE7001022	1196	1733.. 2197	3384
	PLACE7001936	1197	272.. 697	3385
	PLACE7002641	1198	1254.. 2264	3386
	PLACE7006051	1199	145.. >3409	3387
	PLACE7008431	1200	223.. 1281	3388
15	PLACE7008623	1201	1304.. 1762	3389
	PROST1000184	1202	734.. 1123	3390
	PROST1000528	1203	428.. 838	3391
	PROST1000559	1204	149.. 856	3392
	PROST2003428	1205	1031.. 1387	3393
20	PROST2008993	1206	362.. 2008	3394
	PROST2015243	1207	1401.. 1802	3395
	PROST2016462	1208	435.. 2081	3396
	PROST2017367	1209	72.. 428	3397
	PROST2017413	1210	1163.. 1510	3398
25	PROST2017700	1211	1337.. 1645	3399
	PROST2018030	1212	884.. 1255	3400
	PROST2018090	1213	117.. 1448	3401
	PROST2018511	1214	136.. 1803	3402
	PROST2018902	1215	288.. 653	3403
30	PROST2018922	1216	556.. 888	3404
	PROST2019296	1217	415.. 777	3405
	PROST2019781	1218	139.. 441	3406
	PUAEN20024°9	1219	410.. 1186	3407
	PUAEN2002616	1220	1790.. 2389	3408
35	PUAEN2003079	1221	438.. 812	3409
	PUAEN2005588	1222	134.. 580	3410

	PUAEN2005930	1223	1673..3256	3411
	PUAEN2006328	1224	166..2064	3412
	PUAEN2006701	1225	277..837	3413
	PUAEN2007044	1226	51..521	3414
5	PUAEN2007785	1227	23..1144	3415
	PUAEN2009174	1228	4..2547	3416
	PUAEN2009655	1229	237..2198	3417
	PUAEN2009795	1230	121..1716	3418
	PUAEN2009852	1231	953..1291	3419
10	RECTM2000433	1232	33..536	3420
	RECTM2001347	1233	638..1609	3421
	SKMUS2000757	1234	289..606	3422
	SKMUS2003074	1235	291..692	3423
	SKMUS2004047	1236	628..1047	3424
15	SKMUS2006394	1237	111..1469	3425
	SKNMC1000124	1238	194..1390	3426
	SKNMC2002402	1239	107..466	3427
	SKNMC2004457	1240	1304..1750	3428
	SKNMC2004643	1241	26..697	3429
20	SKNMC2005772	1242	1187..1585	3430
	SKNMC2006998	1243	97..558	3431
	SKNMC2007504	1244	27..1190	3432
	SKNMC2007961	1245	170..472	3433
	SKNMC2009450	1246	103..411	3434
25	SKNSH2000482	1247	1184..1561	3435
	SKNSH2009991	1248	1073..1378	3436
	SKNSH2010015	1249	1308..1613	3437
	SMINT1000192	1250	49..810	3438
	SMINT2001818	1251	616..1158	3439
30	SMINT2002743	1252	995..1375	3440
	SMINT2006641	1253	1820..2185	3441
	SMINT2007391	1254	229..1197	3442
	SMINT2009902	1255	98..901	3443
	SMINT2010076	1256	81..1574	3444
35	SMINT2010897	1257	230..535	3445
	SMINT2011311	1258	594..1121	3446

	SMINT2011888	1259	80..1543	3447
	SMINT2015787	1260	48.. 551	3448
	SPLN2001599	1261	20..1297	3449
	SPLN2002147	1262	607..1068	3450
5	SPLN2002467	1263	256..1566	3451
	SPLN2002707	1264	234.. 545	3452
	SPLN2006122	1265	162..1121	3453
	SPLN2009548	1266	349.. 723	3454
	SPLN2010912	1267	1159..2286	3455
10	SPLN2011422	1268	79..1008	3456
	SPLN2012624	1269	1077..1784	3457
	SPLN2012889	1270	1647..2018	3458
	SPLN2014946	1271	161.. 547	3459
	SPLN2015158	1272	567.. 947	3460
15	SPLN2015267	1273	81..1646	3461
	SPLN2015679	1274	517..>2171	3462
	SPLN2016554	1275	200..3343	3463
	SPLN2016863	1276	276..1352	3464
	SPLN2017104	1277	264..1274	3465
20	SPLN2021701	1278	23.. 910	3466
	SPLN2023733	1279	158..1264	3467
	SPLN2023791	1280	144.. 746	3468
	SPLN2024127	1281	198.. 584	3469
	SPLN2025491	1282	1056..1466	3470
25	SPLN2027268	1283	1655..2161	3471
	SPLN2028844	1284	271.. 840	3472
	SPLN2028914	1285	253.. 855	3473
	SPLN2029051	1286	234.. 596	3474
	SPLN2029176	1287	531.. 998	3475
30	SPLN2029522	1288	1430..1771	3476
	SPLN2029683	1289	1308..1682	3477
	SPLN2029727	1290	2754..3068	3478
	SPLN2029912	1291	216.. 653	3479
	SPLN2030335	1292	382..1104	3480
35	SPLN2030479	1293	567..1061	3481
	SPLN2031125	1294	24.. 407	3482

	SPLN2031424	1295	641..1138	3483
	SPLN2031547	1296	428..1645	3484
	SPLN2031724	1297	385.. 765	3485
	SPLN2031780	1298	78..1067	3486
5	SPLN2032154	1299	244.. 735	3487
	SPLN2032321	1300	1893..2222	3488
	SPLN2032813	1301	799..1134	3489
	SPLN2033098	1302	1452..2051	3490
	SPLN2033153	1303	109.. 471	3491
10	SPLN2033539	1304	1359..1682	3492
	SPLN2033921	1305	2125..2478	3493
	SPLN2034021	1306	147.. 482	3494
	SPLN2034081	1307	536..1042	3495
	SPLN2034678	1308	61.. 495	3496
15	SPLN2034781	1309	629..1618	3497
	SPLN2036103	1310	1088..1627	3498
	SPLN2036326	1311	1062..1973	3499
	SPLN2036712	1312	179.. 529	3500
	SPLN2036821	1313	932..1276	3501
20	SPLN2036932	1314	1724..2170	3502
	SPLN2037194	1315	185..1984	3503
	SPLN2037580	1316	1852..2301	3504
	SPLN2037630	1317	1219..1542	3505
	SPLN2037722	1318	71..1066	3506
25	SPLN2038055	1319	1738..2220	3507
	SPLN2038180	1320	8.. 496	3508
	SPLN2038345	1321	356.. 793	3509
	SPLN2038407	1322	185..2005	3510
	SPLN2039697	1323	791..1105	3511
30	SPLN2039936	1324	71.. 382	3512
	SPLN2040222	1325	106.. 840	3513
	SPLN2041304	1326	72.. 398	3514
	SPLN2041310	1327	1402..1734	3515
	SPLN2041645	1328	1624..1998	3516
35	SPLN2041720	1329	57.. 494	3517
	SPLN2041977	1330	72.. 374	3518

	SPLEN2042303	1331	480.. 791	3519
	SPLEN2042598	1332	70.. 387	3520
	STOMA1000189	1333	1050.. 1436	3521
	STOMA2003444	1334	1664.. 1975	3522
5	STOMA2004294	1335	38.. 607	3523
	STOMA2004925	1336	854.. 1285	3524
	STOMA2008546	1337	119.. 1060	3525
	SYNOV1000374	1338	204.. 659	3526
	SYNOV2005216	1339	1201.. >2283	3527
10	SYNOV2005448	1340	1261.. 1653	3528
	SYNOV2005817	1341	412.. 1395	3529
	SYNOV2006430	1342	232.. 780	3530
	SYNOV2007965	1343	83.. 1375	3531
	SYNOV2012326	1344	30.. 476	3532
15	SYNOV2014400	1345	389.. 988	3533
	SYNOV2016124	1346	1174.. 1476	3534
	SYNOV2017055	1347	981.. 1511	3535
	SYNOV2018921	1348	126.. 737	3536
	SYNOV2021320	1349	182.. 1792	3537
20	SYNOV3000231	1350	81.. 1499	3538
	SYNOV3000302	1351	80.. 1423	3539
	SYNOV4000472	1352	103.. 540	3540
	SYNOV4000706	1353	121.. 2538	3541
	SYNOV4001326	1354	196.. 1086	3542
25	SYNOV4001395	1355	959.. 2092	3543
	SYNOV4002346	1356	150.. 3797	3544
	SYNOV4002392	1357	148.. 951	3545
	SYNOV4002883	1358	1686.. 2240	3546
	SYNOV4003322	1359	2461.. 2859	3547
30	SYNOV4004184	1360	2542.. 2889	3548
	SYNOV4004741	1361	776.. 1237	3549
	SYNOV4004823	1362	3332.. 3715	3550
	SYNOV4004914	1363	2753.. 3106	3551
	SYNOV4006256	1364	182.. 493	3552
35	SYNOV4007012	1365	546.. 1007	3553
	SYNOV4007215	1366	78.. >3375	3554

	SYNOV4007360	1367	567..1364	3555
	SYNOV4007430	1368	47.. 448	3556
	SYNOV4007521	1369	6.. 935	3557
	SYNOV4007553	1370	1405..3759	3558
5	SYNOV4007671	1371	548..1417	3559
	SYNOV4008336	1372	825..1256	3560
	SYNOV4008440	1373	115..3804	3561
	T1ESE2000116	1374	1455..1769	3562
	TBAES2001171	1375	871..1845	3563
10	TBAES2001220	1376	155.. 547	3564
	TBAES2001229	1377	1496..1861	3565
	TBAES2001258	1378	369.. 677	3566
	TBAES2001492	1379	630..1241	3567
	TBAES2001751	1380	185.. 592	3568
15	TBAES2002197	1381	5..1609	3569
	TBAES2003550	1382	1130..1549	3570
	TBAES2004055	1383	898..1935	3571
	TBAES2005157	1384	119..1573	3572
	TBAES2005543	1385	1197..1694	3573
20	TBAES2006568	1386	169.. 996	3574
	TBAES2007964	1387	72.. 449	3575
	TCERX2000613	1388	427..1410	3576
	TCOLN2002278	1389	1064..1432	3577
	TESOP1000127	1390	358.. 708	3578
25	TESOP2000801	1391	707..1216	3579
	TESOP2001122	1392	207.. 998	3580
	TESOP2001166	1393	290..1612	3581
	TESOP2001345	1394	33.. 350	3582
	TESOP2001605	1395	746..1651	3583
30	TESOP2001818	1396	491..1456	3584
	TESOP2001849	1397	17.. 853	3585
	TESOP2001865	1398	6.. 368	3586
	TESOP2001953	1399	372..1871	3587
	TESOP2002273	1400	163.. 558	3588
35	TESOP2002451	1401	99..1157	3589
	TESOP2002489	1402	18.. 365	3590

	TESOP2002539	1403	76.. 459	3591
	TESOP2002950	1404	1262.. 1747	3592
	TESOP2003273	1405	691.. 1032	3593
	TESOP2003753	1406	97.. 399	3594
5	TESOP2004114	1407	510.. 1766	3595
	TESOP2005285	1408	510.. 1181	3596
	TESOP2005485	1409	62.. 994	3597
	TESOP2005579	1410	755.. 1729	3598
	TESOP2006041	1411	315.. 1538	3599
10	TESOP2006060	1412	606.. 1040	3600
	TESOP2006068	1413	930.. 1382	3601
	TESOP2006670	1414	744.. 1235	3602
	TESOP2006746	1415	1158.. 1655	3603
	TESOP2007052	1416	28.. 351	3604
15	TESOP2007262	1417	870.. 2078	3605
	TESOP2007636	1418	1053.. 1403	3606
	TESOP2007688	1419	210.. 863	3607
	TESOP2009121	1420	39.. >2370	3608
	TESOP2009555	1421	741.. 1565	3609
20	TESTI1000257	1422	377.. 1870	3610
	TESTI1000319	1423	107.. 2773	3611
	TESTI1000330	1424	271.. 576	3612
	TESTI1000348	1425	802.. 1251	3613
	TESTI1000390	1426	1642.. 3522	3614
25	TESTI1000491	1427	33.. 428	3615
	TESTI1000545	1428	836.. 3625	3616
	TESTI2000443	1429	682.. 2265	3617
	TESTI2000644	1430	864.. 1211	3618
	TESTI2002036	1431	114.. 1700	3619
30	TESTI2002618	1432	42.. 881	3620
	TESTI2002928	1433	272.. 757	3621
	TESTI2003347	1434	285.. 1829	3622
	TESTI2003573	1435	326.. 1363	3623
	TESTI2004215	1436	300.. 2456	3624
35	TESTI2004700	1437	614.. 1273	3625
	TESTI2005376	1438	412.. 2103	3626

	TESTI2005610	1439	426..1964	3627
	TESTI2005739	1440	514..1848	3628
	TESTI2005986	1441	204.. 551	3629
	TESTI2006041	1442	697..1047	3630
5	TESTI2006643	1443	812..1882	3631
	TESTI2006648	1444	204..1919	3632
	TESTI2009474	1445	283..1536	3633
	TESTI2009477	1446	1176..1649	3634
	TESTI2009511	1447	154.. 663	3635
10	TESTI2009812	1448	910..1308	3636
	TESTI2010400	1449	1814..2224	3637
	TESTI2013381	1450	351.. 695	3638
	TESTI2013382	1451	1332..1826	3639
	TESTI2014716	1452	64..1443	3640
15	TESTI2014843	1453	148..1866	3641
	TESTI2016046	1454	152..2173	3642
	TESTI2017727	1455	83.. 541	3643
	TESTI2018838	1456	647..1147	3644
	TESTI2019042	1457	130..1011	3645
20	TESTI2019648	1458	1044..1463	3646
	TESTI2023254	1459	206..1972	3647
	TESTI2023599	1460	200.. 565	3648
	TESTI2024567	1461	1072..>1878	3649
	TESTI2026505	1462	69..1691	3650
25	TESTI2027019	1463	608..1342	3651
	TESTI2031529	1464	386..1819	3652
	TESTI2034520	1465	59..1519	3653
	TESTI2034749	1466	973..1503	3654
	TESTI2034767	1467	374..1786	3655
30	TESTI2034953	1468	703..1113	3656
	TESTI2034997	1469	179.. 547	3657
	TESTI2035107	1470	126.. 533	3658
	TESTI2035997	1471	826..1140	3659
	TESTI2036513	1472	1569..1895	3660
35	TESTI2036684	1473	297.. 839	3661
	TESTI2037643	1474	3.. 599	3662

	TESTI2040018	1475	441.. >1825	3663
	TESTI2042450	1476	212.. 544	3664
	TESTI2044796	1477	913.. 1692	3665
	TESTI2044833	1478	265.. 633	3666
5	TESTI2045920	1479	15.. 758	3667
	TESTI2045983	1480	103.. 609	3668
	TESTI2046347	1481	465.. 1022	3669
	TESTI2047071	1482	596.. 1012	3670
	TESTI2048465	1483	755.. 1315	3671
10	TESTI2048603	1484	122.. 490	3672
	TESTI2048898	1485	6.. 374	3673
	TESTI2049206	1486	677.. 1003	3674
	TESTI2049246	1487	296.. 658	3675
	TESTI2049277	1488	765.. 1130	3676
15	TESTI2049422	1489	69.. 941	3677
	TESTI2049452	1490	28.. 381	3678
	TESTI2049469	1491	313.. 1341	3679
	TESTI2049576	1492	1030.. 1773	3680
	TESTI2049857	1493	816.. 2057	3681
20	TESTI2050137	1494	6.. 1283	3682
	TESTI2050681	1495	186.. 605	3683
	TESTI2050987	1496	313.. 1104	3684
	TESTI2051279	1497	338.. 922	3685
	TESTI2051488	1498	665.. 1171	3686
25	TESTI2051543	1499	925.. 1491	3687
	TESTI2051767	1500	568.. 945	3688
	TESTI2051806	1501	60.. 1091	3689
	TESTI2051867	1502	779.. 1780	3690
	TESTI2052211	1503	264.. 1358	3691
30	TESTI2052693	1504	929.. 1954	3692
	TESTI2052698	1505	451.. 1011	3693
	TESTI2052822	1506	103.. 459	3694
	TESTI2053242	1507	86.. 574	3695
	TESTI2053399	1508	81.. 503	3696
35	TESTI2053526	1509	116.. 502	3697
	TESTI2053621	1510	977.. 1582	3698

	TESTI4000014	1511	30..4214	3699
	TESTI4000068	1512	1820..2359	3700
	TESTI4000079	1513	1263..3458	3701
	TESTI4000209	1514	24..1049	3702
5	TESTI4000215	1515	230.. 922	3703
	TESTI4000250	1516	56.. 496	3704
	TESTI4000288	1517	546..1082	3705
	TESTI4000349	1518	1259..3469	3706
	TESTI4000462	1519	886..1497	3707
10	TESTI4000530	1520	346.. 879	3708
	TESTI4000724	1521	110..1639	3709
	TESTI4000970	1522	458..2476	3710
	TESTI4001100	1523	55.. 723	3711
	TESTI4001106	1524	453..2180	3712
15	TESTI4001148	1525	94..1947	3713
	TESTI4001176	1526	636..1178	3714
	TESTI4001201	1527	106.. 441	3715
	TESTI4001206	1528	500.. 916	3716
	TESTI4001527	1529	710..1468	3717
20	TESTI4001561	1530	2780..>3955	3718
	TESTI4001665	1531	4092..4538	3719
	TESTI4001923	1532	200.. 658	3720
	TESTI4002290	1533	1054..1497	3721
	TESTI4002491	1534	1553..1873	3722
25	TESTI4002552	1535	2112..3710	3723
	TESTI4002647	1536	190..>3607	3724
	TESTI4002703	1537	1531..2484	3725
	TESTI4002754	1538	157.. 600	3726
	TESTI4002878	1539	150.. 650	3727
30	TESTI4004200	1540	4.. 498	3728
	TESTI4005628	1541	158.. 487	3729
	TESTI4005805	1542	4.. 468	3730
	TESTI4005857	1543	3018..3860	3731
	TESTI4005961	1544	3600..3911	3732
35	TESTI4006053	1545	163.. 480	3733
	TESTI4006079	1546	1652..3514	3734

	TESTI4006112	1547	799..1635	3735
	TESTI4006137	1548	235.. 798	3736
	TESTI4006148	1549	358..1035	3737
	TESTI4006219	1550	138.. 479	3738
5	TESTI4006326	1551	1194..2537	3739
	TESTI4006393	1552	2691..3194	3740
	TESTI4006412	1553	83.. 427	3741
	TESTI4006420	1554	1850..2674	3742
	TESTI4006546	1555	286..3543	3743
10	TESTI4006802	1556	95..3277	3744
	TESTI4006819	1557	1355..1681	3745
	TESTI4007064	1558	5..4678	3746
	TESTI4007163	1559	2933..3799	3747
	TESTI4007203	1560	79.. 420	3748
15	TESTI4007239	1561	36..4373	3749
	TESTI4007373	1562	77.. 493	3750
	TESTI4007382	1563	32..2785	3751
	TESTI4007404	1564	82..4038	3752
	TESTI4007489	1565	3867..4589	3753
20	TESTI4007775	1566	1493..1870	3754
	TESTI4007778	1567	665..3337	3755
	TESTI4007799	1568	1200..2039	3756
	TESTI4007810	1569	1972..2739	3757
	TESTI4008007	1570	1375..1983	3758
25	TESTI4008018	1571	2012..2338	3759
	TESTI4008050	1572	968..2101	3760
	TESTI4008219	1573	2148..2618	3761
	TESTI4008401	1574	288.. 731	3762
	TESTI4008429	1575	2906..4009	3763
30	TESTI4008573	1576	199.. 528	3764
	TESTI4008797	1577	2518..3342	3765
	TESTI4008816	1578	661..3057	3766
	TESTI4008935	1579	2086..3030	3767
	TESTI4008993	1580	224..1048	3768
35	TESTI4009022	1581	2341..2706	3769
	TESTI4009034	1582	4067..4510	3770

	TESTI4009123	1583	33.. 374	3771
	TESTI4009160	1584	51.. 2603	3772
	TESTI4009215	1585	1159.. 1467	3773
	TESTI4009283	1586	1816.. 2547	3774
5	TESTI4009286	1587	4041.. 4886	3775
	TESTI4009374	1588	180.. 1592	3776
	TESTI4009406	1589	2151.. 3299	3777
	TESTI4009457	1590	364.. 858	3778
	TESTI4009563	1591	2555.. 3313	3779
10	TESTI4009608	1592	531.. 908	3780
	TESTI4009638	1593	85.. 624	3781
	TESTI4009881	1594	583.. 3669	3782
	TESTI4010211	1595	- 46.. 405	3783
	TESTI4010377	1596	1057.. 1476	3784
15	TESTI4010713	1597	106.. 3780	3785
	TESTI4010789	1598	2218.. 2778	3786
	TESTI4010817	1599	1062.. >3380	3787
	TESTI4010831	1600	486.. 3395	3788
	TESTI4010851	1601	92.. >4555	3789
20	TESTI4010928	1602	197.. 769	3790
	TESTI4011118	1603	4088.. 4399	3791
	TESTI4011161	1604	1397.. 3091	3792
	TESTI4011246	1605	1723.. 2106	3793
	TESTI4011484	1606	201.. 2336	3794
25	TESTI4011505	1607	1357.. 1815	3795
	TESTI4011745	1608	2319.. >4990	3796
	TESTI4011956	1609	162.. 2786	3797
	TESTI4012086	1610	177.. 731	3798
	TESTI4012329	1611	524.. 907	3799
30	TESTI4012406	1612	141.. 611	3800
	TESTI4012448	1613	1666.. 3051	3801
	TESTI4012505	1614	1119.. 3005	3802
	TESTI4012556	1615	1928.. 2431	3803
	TESTI4012679	1616	1037.. 2071	3804
35	TESTI4012702	1617	72.. 1529	3805
	TESTI4013369	1618	3026.. 3454	3806

	TESTI4013667	1619	351.. 659	3807
	TESTI4013675	1620	287.. 592	3808
	TESTI4013685	1621	2650.. 3045	3809
	TESTI4013735	1622	2964.. 3386	3810
5	TESTI4013817	1623	2764.. 3237	3811
	TESTI4013830	1624	163.. 4938	3812
	TESTI4013924	1625	168.. 2039	3813
	TESTI4014159	1626	2462.. 2929	3814
	TESTI4014175	1627	836.. 2569	3815
10	TESTI4014306	1628	2600.. 3031	3816
	TESTI4014392	1629	2506.. 2877	3817
	TESTI4014445	1630	23.. 364	3818
	TESTI4014694	1631	65.. 424	3819
	TESTI4014818	1632	1881.. 2957	3820
15	TESTI4014924	1633	131.. 3898	3821
	TESTI4015263	1634	246.. 746	3822
	TESTI4015293	1635	2214.. 4253	3823
	TESTI4015471	1636	3317.. 3808	3824
	TESTI4015600	1637	2050.. 2508	3825
20	TESTI4015646	1638	1674.. 2030	3826
	TESTI4015681	1639	2551.. 3006	3827
	TESTI4015688	1640	37.. 432	3828
	TESTI4016110	1641	2559.. 3257	3829
	TESTI4016238	1642	12.. 371	3830
25	TESTI4016551	1643	2731.. 3495	3831
	TESTI4016812	1644	53.. 3097	3832
	TESTI4016822	1645	203.. 688	3833
	TESTI4016882	1646	131.. 958	3834
	TESTI4016925	1647	49.. 4704	3835
30	TESTI4017001	1648	1.. 1251	3836
	TESTI4017137	1649	1822.. 2391	3837
	TESTI4017254	1650	295.. 645	3838
	TESTI4017543	1651	30.. 3824	3839
	TESTI4017575	1652	32.. 3679	3840
35	TESTI4017848	1653	170.. 544	3841
	TESTI4017901	1654	50.. 361	3842

	TESTI4017961	1655	2224..2679	3843
	TESTI4018152	1656	1279..2082	3844
	TESTI4018208	1657	114.. 461	3845
	TESTI4018382	1658	819..1208	3846
5	TESTI4018555	1659	980..1633	3847
	TESTI4018806	1660	156.. 587	3848
	TESTI4018835	1661	1223..3052	3849
	TESTI4018881	1662	1303..2754	3850
	TESTI4018886	1663	1235..2332	3851
10	TESTI4019140	1664	622..2322	3852
	TESTI4019299	1665	122..1195	3853
	TESTI4019417	1666	247.. 618	3854
	TESTI4019566	1667	35..2755	3855
	TESTI4019843	1668	165..2381	3856
15	TESTI4020092	1669	1074..1418	3857
	TESTI4020102	1670	1262..1693	3858
	TESTI4020806	1671	367.. 753	3859
	TESTI4020920	1672	846..2930	3860
	TESTI4021294	1673	1..3249	3861
20	TESTI4021456	1674	445.. 900	3862
	TESTI4021478	1675	116..2476	3863
	TESTI4021491	1676	1532..1972	3864
	TESTI4022716	1677	577..3141	3865
	TESTI4022873	1678	166..3783	3866
25	TESTI4022936	1679	54.. 854	3867
	TESTI4023546	1680	150..2882	3868
	TESTI4023555	1681	1769..2470	3869
	TESTI4023722	1682	729..1112	3870
	TESTI4023762	1683	471..2999	3871
30	TESTI4023942	1684	47.. 361	3872
	TESTI4024344	1685	3.. 548	3873
	TESTI4024420	1686	96..3140	3874
	TESTI4024874	1687	418.. 918	3875
	TESTI4024890	1688	2189..2623	3876
35	TESTI4024907	1689	1280..1729	3877
	TESTI4025731	1690	266.. 610	3878

	TESTI4025797	1691	56..2869	3879
	TESTI4025920	1692	76..3117	3880
	TESTI4026079	1693	3.. 323	3881
	TESTI4026192	1694	1.. 390	3882
5	TESTI4026295	1695	145.. 498	3883
	TESTI4026456	1696	117.. 443	3884
	TESTI4026510	1697	1733..3232	3885
	TESTI4026524	1698	744..2759	3886
	TESTI4026700	1699	242..2626	3887
10	TESTI4026762	1700	392..4093	3888
	TESTI4026785	1701	107.. 508	3889
	TESTI4027516	1702	3747..4265	3890
	TESTI4027557	1703	1469..2440	3891
	TESTI4027821	1704	1226..1855	3892
15	TESTI4028059	1705	1786..3183	3893
	TESTI4028062	1706	53.. 529	3894
	TESTI4028429	1707	1.. 306	3895
	TESTI4028612	1708	357..4304	3896
	TESTI4028809	1709	1672..2172	3897
20	TESTI4028823	1710	119..>2529	3898
	TESTI4028880	1711	758..2320	3899
	TESTI4028983	1712	283.. 924	3900
	TESTI4029370	1713	79.. 447	3901
	TESTI4029671	1714	59..1408	3902
25	TESTI4029836	1715	76..2982	3903
	TESTI4030069	1716	219.. 650	3904
	TESTI4030159	1717	34.. 621	3905
	TESTI4030505	1718	142..3492	3906
	TESTI4030603	1719	37..1011	3907
30	TESTI4030669	1720	3..3041	3908
	TESTI4032895	1721	212..2701	3909
	TESTI4033433	1722	875..1519	3910
	TESTI4033690	1723	206..>3057	3911
	TESTI4034172	1724	97.. 435	3912
35	TESTI4034212	1725	296..1093	3913
	TESTI4034432	1726	4035..>4449	3914

	TESTI4034632	1727	1306..2199	3915
	TESTI4034912	1728	201..3137	3916
	TESTI4035063	1729	894..3518	3917
	TESTI4035065	1730	1418..1927	3918
5	TESTI4035498	1731	39..704	3919
	TESTI4035602	1732	39..389	3920
	TESTI4035637	1733	1..2937	3921
	TESTI4035649	1734	19..441	3922
	TESTI4036042	1735	3085..3465	3923
10	TESTI4036909	1736	130..2910	3924
	TESTI4037066	1737	1285..4461	3925
	TESTI4037156	1738	1119..2738	3926
	TESTI4037188	1739	142..2280	3927
	TESTI4037244	1740	52..354	3928
15	TESTI4037727	1741	250..3051	3929
	TESTI4038156	1742	163..489	3930
	TESTI4038223	1743	112..654	3931
	TESTI4038258	1744	83..403	3932
	TESTI4038339	1745	458..2428	3933
20	TESTI4038492	1746	415..960	3934
	TESTI4038818	1747	1053..1442	3935
	TESTI4039038	1748	1270..2871	3936
	TESTI4039086	1749	1902..2606	3937
	TESTI4039659	1750	237..935	3938
25	TESTI4040363	1751	255..677	3939
	TESTI4040800	1752	59..1144	3940
	TESTI4040939	1753	23..823	3941
	TESTI4040956	1754	1316..1630	3942
	TESTI4041053	1755	89..3331	3943
30	TESTI4041099	1756	3010..3369	3944
	TESTI4041143	1757	318..644	3945
	TESTI4041519	1758	4..345	3946
	TESTI4041624	1759	6..458	3947
	TESTI4041903	1760	69..458	3948
35	TESTI4041954	1761	130..498	3949
	TESTI4042098	1762	1523..2296	3950

	TESTI4042444	1763	1808..2239	3951
	TESTI4042711	1764	220.. 561	3952
	TESTI4043129	1765	1129..1629	3953
	TESTI4043203	1766	84.. 437	3954
5	TESTI4043551	1767	2185..2754	3955
	TESTI4043947	1768	14..2920	3956
	TESTI4044035	1769	140.. 682	3957
	TESTI4044084	1770	6.. 491	3958
	TESTI4044123	1771	227.. 637	3959
10	TESTI4044186	1772	263.. 844	3960
	TESTI4044234	1773	184.. 987	3961
	TESTI4044296	1774	1968..2684	3962
	TESTI4044682	1775	-36.. 491	3963
	TESTI4045312	1776	375.. 734	3964
15	TESTI4046253	1777	151.. 456	3965
	TESTI4046282	1778	79..3672	3966
	TESTI4046487	1779	1351..2883	3967
	TESTI4046819	1780	299..3535	3968
	TESTI4046884	1781	99..>3063	3969
20	TESTI4047069	1782	1554..1895	3970
	THYMU1000496	1783	324..1295	3971
	THYMU1000600	1784	390.. 809	3972
	THYMU2000932	1785	1767..2492	3973
	THYMU2001053	1786	1669..2070	3974
25	THYMU2001090	1787	1738..2067	3975
	THYMU2003397	1788	1100..1543	3976
	THYMU2003632	1789	1483..1812	3977
	THYMU2003760	1790	304.. 612	3978
	THYMU2004693	1791	1445..1792	3979
30	THYMU2005003	1792	1245..1697	3980
	THYMU2005190	1793	133.. 531	3981
	THYMU2005303	1794	909..1367	3982
	THYMU2005321	1795	81.. 473	3983
	THYMU2006420	1796	335..1147	3984
35	THYMU2007060	1797	786..>2283	3985
	THYMU2007179	1798	310..>1233	3986

	THYMU2007658	1799	452.. 913	3987
	THYMU2008282	1800	1301.. 1741	3988
	THYMU2008725	1801	47.. 1876	3989
	THYMU2009134	1802	147.. 674	3990
5	THYMU2009157	1803	1691.. 2095	3991
	THYMU2009425	1804	4.. 525	3992
	THYMU2011548	1805	70.. 1044	3993
	THYMU2011736	1806	1019.. 1939	3994
	THYMU2013386	1807	421.. 1773	3995
10	THYMU2014353	1808	765.. 1100	3996
	THYMU2016204	1809	880.. 1923	3997
	THYMU2016523	1810	2076.. 2411	3998
	THYMU2019210	1811	55.. 1359	3999
	THYMU2019587	1812	1196.. 1633	4000
15	THYMU2023711	1813	80.. 1486	4001
	THYMU2023967	1814	1000.. 1479	4002
	THYMU2025707	1815	18.. 527	4003
	THYMU2027497	1816	84.. 884	4004
	THYMU2027695	1817	52.. 1611	4005
20	THYMU2027734	1818	581.. 1141	4006
	THYMU2028978	1819	283.. 642	4007
	THYMU2029676	1820	1209.. 1868	4008
	THYMU2029688	1821	45.. 368	4009
	THYMU2030068	1822	91.. 477	4010
25	THYMU2030226	1823	207.. 710	4011
	THYMU2030264	1824	152.. 1756	4012
	THYMU2030637	1825	147.. 1865	4013
	THYMU2030796	1826	328.. 642	4014
	THYMU2031046	1827	23.. 703	4015
30	THYMU2031218	1828	563.. 925	4016
	THYMU2031258	1829	127.. 681	4017
	THYMU2031341	1830	2050.. 2376	4018
	THYMU2031368	1831	498.. 821	4019
	THYMU2031579	1832	258.. 578	4020
35	THYMU2031847	1833	145.. 492	4021
	THYMU2031890	1834	4.. 348	4022

	THYMU2032014	1835	880.. 1371	4023
	THYMU2032035	1836	186.. 533	4024
	THYMU2032080	1837	366.. 674	4025
	THYMU2032358	1838	230.. 604	4026
5	THYMU2032437	1839	665.. 1090	4027
	THYMU2032655	1840	360.. 701	4028
	THYMU2032696	1841	1133.. 2215	4029
	THYMU2032825	1842	189.. 818	4030
	THYMU2033070	1843	22.. 441	4031
10	THYMU2033079	1844	1706.. 2023	4032
	THYMU2033104	1845	1963.. 2298	4033
	THYMU2033308	1846	1067.. 1369	4034
	THYMU2033787	1847	1808.. 2656	4035
	THYMU2033816	1848	1947.. 2336	4036
15	THYMU2034314	1849	1836.. 2189	4037
	THYMU2034374	1850	1119.. 1637	4038
	THYMU2034647	1851	1557.. 2051	4039
	THYMU2035064	1852	24.. 428	4040
	THYMU2035101	1853	17.. 334	4041
20	THYMU2035319	1854	641.. 2161	4042
	THYMU2035388	1855	37.. 408	4043
	THYMU2035400	1856	96.. 494	4044
	THYMU2035735	1857	99.. 1619	4045
	THYMU2036058	1858	1381.. 1785	4046
25	THYMU2036085	1859	2311.. 2922	4047
	THYMU2036252	1860	22.. 459	4048
	THYMU2036265	1861	1260.. 1568	4049
	THYMU2036459	1862	347.. 3121	4050
	THYMU2036653	1863	422.. 754	4051
30	THYMU2037081	1864	78.. 533	4052
	THYMU2037208	1865	1156.. 1608	4053
	THYMU2037226	1866	375.. 4157	4054
	THYMU2037233	1867	2777.. 3235	4055
	THYMU2037348	1868	115.. 423	4056
35	THYMU2037965	1869	167.. 598	4057
	THYMU2038189	1870	84.. 452	4058

	THYMU2038301	1871	1019..1417	4059
	THYMU2038369	1872	11.. 826	4060
	THYMU2038615	1873	597..1100	4061
	THYMU2038636	1874	19.. 387	4062
5	THYMU2038739	1875	1446..1874	4063
	THYMU2038772	1876	50.. 532	4064
	THYMU2038797	1877	75..1304	4065
	THYMU2039305	1878	1607..1969	4066
	THYMU2039315	1879	26..1549	4067
10	THYMU2039350	1880	86..1891	4068
	THYMU2039411	1881	423.. 800	4069
	THYMU2039780	1882	292.. 831	4070
	THYMU2039989	1883	1651..2124	4071
	THYMU2040140	1884	72.. 437	4072
15	THYMU2040412	1885	660..1049	4073
	THYMU2040824	1886	13.. 693	4074
	THYMU2040975	1887	174..1262	4075
	THYMU2041007	1888	54.. 401	4076
	THYMU2041015	1889	251..1798	4077
20	THYMU2041252	1890	301.. 798	4078
	THYMU3000028	1891	883..1701	4079
	THYMU3000036	1892	480.. 881	4080
	THYMU3000133	1893	312..2012	4081
	THYMU3000655	1894	148.. 774	4082
25	THYMU3000826	1895	225.. 779	4083
	THYMU3001083	1896	2429..2761	4084
	THYMU3001234	1897	1340..2329	4085
	THYMU3001379	1898	599..2251	4086
	THYMU3001472	1899	1556..1870	4087
30	THYMU3001991	1900	2453..2782	4088
	THYMU3002452	1901	1314..1697	4089
	THYMU3002661	1902	818..1348	4090
	THYMU3003212	1903	1292..1726	4091
	THYMU3003309	1904	2336..2866	4092
35	THYMU3003763	1905	1011..1991	4093
	THYMU3004157	1906	579.. 899	4094

	THYMU3004835	1907	77.. 1282	4095
	THYMU3004866	1908	703.. 2709	4096
	THYMU3005696	1909	2267.. 2569	4097
	THYMU3006118	1910	924.. 1331	4098
5	THYMU3006132	1911	237.. 1703	4099
	THYMU3006168	1912	2025.. 2813	4100
	THYMU3006172	1913	240.. 1823	4101
	THYMU3006371	1914	1600.. 2007	4102
	THYMU3006485	1915	1386.. 1796	4103
10	THYMU3006811	1916	27.. 395	4104
	THYMU3006963	1917	386.. 784	4105
	THYMU3007137	1918	404.. 2878	4106
	THYMU3007368	1919	2076.. 2516	4107
	THYMU3007845	1920	1862.. 2281	4108
15	THYMU3008171	1921	1204.. 1773	4109
	THYMU3008436	1922	225.. 2780	4110
	THYMU3009255	1923	186.. 524	4111
	TKIDN2000701	1924	1716.. 2306	4112
	TKIDN2002424	1925	42.. 377	4113
20	TKIDN2002632	1926	350.. 730	4114
	TKIDN2003044	1927	1520.. 1840	4115
	TKIDN2004386	1928	1489.. 2130	4116
	TKIDN2005934	1929	158.. 571	4117
	TKIDN2005947	1930	144.. 533	4118
25	TKIDN2006525	1931	613.. 1590	4119
	TKIDN2006852	1932	665.. 1294	4120
	TKIDN2007667	1933	1640.. >2145	4121
	TKIDN2009092	1934	665.. 1021	4122
	TKIDN2009641	1935	538.. 852	4123
30	TKIDN2009889	1936	164.. 580	4124
	TKIDN2010934	1937	516.. 1220	4125
	TKIDN2012824	1938	434.. 745	4126
	TKIDN2013287	1939	331.. 663	4127
	TKIDN2014757	1940	223.. 537	4128
35	TKIDN2014771	1941	244.. 642	4129
	TKIDN2015263	1942	43.. 396	4130

	TKIDN2015788	1943	841.. 1272	4131
	TKIDN2016309	1944	212.. 634	4132
	TKIDN2019116	1945	14.. 640	4133
	TLIVE2000023	1946	110.. 589	4134
5	TLIVE2001327	1947	90.. 2918	4135
	TLIVE2001828	1948	155.. 589	4136
	TLIVE2001927	1949	557.. 895	4137
	TLIVE2002336	1950	3.. 1598	4138
	TLIVE2002338	1951	1005.. 1817	4139
10	TLIVE2002690	1952	210.. 1490	4140
	TLIVE2003197	1953	88.. 474	4141
	TLIVE2003225	1954	60.. 1220	4142
	TLIVE2003381	1955	603.. 1097	4143
	TLIVE2003970	1956	230.. 640	4144
15	TLIVE2004110	1957	68.. 424	4145
	TLIVE2004320	1958	1436.. 2650	4146
	TLIVE2004601	1959	242.. 586	4147
	TLIVE2005180	1960	1180.. 1518	4148
	TLIVE2006236	1961	59.. 409	4149
20	TLIVE2006529	1962	572.. 1492	4150
	TLIVE2007132	1963	70.. 444	4151
	TLIVE2007528	1964	715.. 1110	4152
	TLIVE2007816	1965	214.. 669	4153
	TLIVE2008083	1966	1670.. 2002	4154
25	TLIVE2008229	1967	17.. 1786	4155
	TLIVE2009541	1968	343.. 1413	4156
	TOVAR2000649	1969	192.. 605	4157
	TOVAR2001281	1970	71.. 403	4158
	TOVAR2001730	1971	94.. 672	4159
30	TOVAR2002247	1972	317.. 1375	4160
	TOVAR2002549	1973	1301.. 1657	4161
	TRACH1000205	1974	89.. 928	4162
	TRACH2001443	1975	284.. 949	4163
	TRACH2001549	1976	190.. 1566	4164
35	TRACH2001684	1977	1190.. 1684	4165
	TRACH2003070	1978	358.. 855	4166

	TRACH2004170	1979	349.. 795	4167
	TRACH2005066	1980	136.. 597	4168
	TRACH2005811	1981	1125.. 2234	4169
	TRACH2006049	1982	927.. 1247	4170
5	TRACH2006387	1983	245.. 1258	4171
	TRACH2007059	1984	244.. 2031	4172
	TRACH2007834	1985	3.. 311	4173
	TRACH2008300	1986	414.. 752	4174
	TRACH2009310	1987	275.. 2413	4175
10	TRACH2019248	1988	42.. 395	4176
	TRACH2019473	1989	179.. 1552	4177
	TRACH2020525	1990	1340.. 1912	4178
	TRACH2021398	1991	225.. 872	4179
	TRACH2021964	1992	105.. >2454	4180
15	TRACH2022042	1993	985.. 1332	4181
	TRACH2022425	1994	80.. 1573	4182
	TRACH2022553	1995	38.. 1744	4183
	TRACH2022649	1996	55.. 1491	4184
	TRACH2023299	1997	24.. 1670	4185
20	TRACH2023306	1998	157.. 1071	4186
	TRACH2025344	1999	1616.. 2086	4187
	TRACH2025507	2000	1483.. 1848	4188
	TRACH2025535	2001	561.. 1253	4189
	TRACH2025749	2002	655.. 1017	4190
25	TRACH2025911	2003	189.. 680	4191
	TRACH2025932	2004	201.. 530	4192
	TRACH3000014	2005	33.. 2963	4193
	TRACH3000342	2006	3259.. 3672	4194
	TRACH3000558	2007	3058.. >3576	4195
30	TRACH3000586	2008	1117.. 1662	4196
	TRACH3000926	2009	127.. 4203	4197
	TRACH3001427	2010	26.. 1021	4198
	TRACH3002064	2011	1457.. 1777	4199
	TRACH3002168	2012	730.. 2313	4200
35	TRACH3002192	2013	24.. 464	4201
	TRACH3002650	2014	3122.. 3475	4202

	TRACH3002866	2015	90..1199	4203
	TRACH3002871	2016	1866..2183	4204
	TRACH3003379	2017	84..1916	4205
	TRACH3004068	2018	787..1104	4206
5	TRACH3004537	2019	1535..2935	4207
	TRACH3004721	2020	1009..2847	4208
	TRACH3004786	2021	2629..3258	4209
	TRACH3004840	2022	79..714	4210
	TRACH3005294	2023	3984..4352	4211
10	TRACH3005479	2024	90..3338	4212
	TRACH3005549	2025	81..845	4213
	TRACH3006038	2026	2846..3157	4214
	TRACH3006149	2027	2186..2494	4215
	TRACH3006228	2028	1016..3304	4216
15	TRACH3006412	2029	1681..2196	4217
	TRACH3006470	2030	157..1983	4218
	TRACH3006889	2031	2712..3470	4219
	TRACH3007391	2032	3..308	4220
	TRACH3007479	2033	571..1602	4221
20	TRACH3008093	2034	184..813	4222
	TRACH3008535	2035	2148..2456	4223
	TRACH3008629	2036	80..2737	4224
	TRACH3008713	2037	2044..2364	4225
	TRACH3009455	2038	1507..2718	4226
25	TRACH3034731	2039	124..1233	4227
	TRACH3034762	2040	1177..1527	4228
	TRACH3035199	2041	234..1211	4229
	TRACH3035235	2042	3..350	4230
	TRACH3035482	2043	1879..2346	4231
30	TRACH3035526	2044	17..1489	4232
	TRACH3036193	2045	172..4803	4233
	TRACH3036207	2046	268..1368	4234
	TRACH3036309	2047	50..691	4235
	TRACH3036456	2048	1214..1591	4236
35	TRACH3036609	2049	3159..4154	4237
	TSTOM1000135	2050	201..1097	4238

	TSTOM2000442	2051	80..1633	4239
	TSTOM2000553	2052	170..1450	4240
	TSTOM2002672	2053	1088..1432	4241
	TUTER1000122	2054	10..363	4242
5	TUTER2000425	2055	216..572	4243
	TUTER2000904	2056	18..773	4244
	TUTER2000916	2057	149..568	4245
	TUTER2001387	2058	1525..1908	4246
	TUTER2002729	2059	20..868	4247
10	UTERU1000024	2060	15..1190	4248
	UTERU1000031	2061	86..1609	4249
	UTERU1000148	2062	1553..2005	4250
	UTERU1000249	2063	349..2499	4251
	UTERU1000337	2064	1062..1922	4252
15	UTERU1000339	2065	18..341	4253
	UTERU2000649	2066	213..902	4254
	UTERU2001409	2067	236..553	4255
	UTERU2002410	2068	2655..2987	4256
	UTERU2002841	2069	1185..2021	4257
20	UTERU2004688	2070	1487..2470	4258
	UTERU2004929	2071	2106..2462	4259
	UTERU2005004	2072	1795..2388	4260
	UTERU2005621	2073	98..1483	4261
	UTERU2006115	2074	128..1018	4262
25	UTERU2006137	2075	1721..2068	4263
	UTERU2006568	2076	535..1458	4264
	UTERU2007444	2077	1104..1502	4265
	UTERU2007520	2078	1644..2126	4266
	UTERU2007724	2079	53..865	4267
30	UTERU2008347	2080	123..1355	4268
	UTERU2014678	2081	1232..1585	4269
	UTERU2017762	2082	427..2319	4270
	UTERU2019491	2083	379..849	4271
	UTERU2019681	2084	1424..1840	4272
35	UTERU2019706	2085	88..1656	4273
	UTERU2019940	2086	653..1228	4274

	UTERU2020491	2087	2042..2437	4275
	UTERU2020718	2088	355..1428	4276
	UTERU2021163	2089	1279..1620	4277
	UTERU2021380	2090	358.. 666	4278
5	UTERU2022020	2091	1448..1789	4279
	UTERU2022981	2092	263.. 571	4280
	UTERU2023039	2093	172.. 681	4281
	UTERU2023175	2094	1231..2088	4282
	UTERU2023651	2095	647..1012	4283
10	UTERU2023712	2096	399.. 758	4284
	UTERU2024002	2097	517..1026	4285
	UTERU2024656	2098	28.. 534	4286
	UTERU2025025	2099	814..2301	4287
	UTERU2025645	2100	263..1021	4288
15	UTERU2025891	2101	1446..1787	4289
	UTERU2026025	2102	172.. 540	4290
	UTERU2026090	2103	65..1183	4291
	UTERU2026203	2104	612..1304	4292
	UTERU2027591	2105	427.. 747	4293
20	UTERU2029953	2106	1415..1870	4294
	UTERU2030213	2107	1261..1950	4295
	UTERU2030280	2108	1134..1511	4296
	UTERU2031084	2109	162.. 728	4297
	UTERU2031268	2110	429..1985	4298
25	UTERU2031521	2111	209.. 700	4299
	UTERU2031703	2112	1190..1654	4300
	UTERU2031851	2113	1192..1659	4301
	UTERU2033375	2114	887..2218	4302
	UTERU2033382	2115	1144..1614	4303
30	UTERU2035114	2116	96.. 614	4304
	UTERU2035323	2117	1015..1467	4305
	UTERU2035328	2118	28..>2438	4306
	UTERU2035331	2119	656..1255	4307
	UTERU2035452	2120	1393..1899	4308
35	UTERU2035469	2121	261.. 707	4309
	UTERU2035503	2122	1539..1859	4310

	UTERU2035745	2123	1964..2272	4311
	UTERU2036089	2124	1131..2297	4312
	UTERU2037361	2125	1427..1849	4313
	UTERU2037577	2126	384.. 725	4314
5	UTERU2038251	2127	76..1215	4315
	UTERU3000226	2128	1353..1691	4316
	UTERU3000645	2129	2681..3310	4317
	UTERU3000665	2130	1945..3624	4318
	UTERU3000828	2131	98..2986	4319
10	UTERU3000899	2132	26.. 871	4320
	UTERU3001059	2133	2772..4715	4321
	UTERU3001240	2134	762..2021	4322
	UTERU3001542	2135	2792..3097	4323
	UTERU3001571	2136	2792..3466	4324
15	UTERU3001572	2137	412..3990	4325
	UTERU3001585	2138	40..1551	4326
	UTERU3001652	2139	115..1590	4327
	UTERU3001766	2140	2128..2478	4328
	UTERU3001988	2141	28.. 801	4329
20	UTERU3002209	2142	2047..2406	4330
	UTERU3002218	2143	221..3025	4331
	UTERU3002383	2144	248.. 571	4332
	UTERU3002667	2145	3011..3322	4333
	UTERU3002731	2146	161.. 472	4334
25	UTERU3002768	2147	98.. 445	4335
	UTERU3002786	2148	1292..2065	4336
	UTERU3002993	2149	4072..4425	4337
	UTERU3003116	2150	3428..4126	4338
	UTERU3003135	2151	3370..3795	4339
30	UTERU3003178	2152	1019..2077	4340
	UTERU3003465	2153	2851..3189	4341
	UTERU3003523	2154	176..3937	4342
	UTERU3003776	2155	711..1025	4343
	UTERU3004523	2156	1109..3427	4344
35	UTERU3004616	2157	2480..3187	4345
	UTERU3004709	2158	718..1095	4346

	UTERU3004992	2159	2565..3077	4347
	UTERU3005049	2160	1561..2505	4348
	UTERU3005205	2161	101..1342	4349
	UTERU3005230	2162	1038..1445	4350
5	UTERU3005460	2163	1872..2489	4351
	UTERU3005585	2164	1145..2395	4352
	UTERU3005907	2165	819..1709	4353
	UTERU3005970	2166	1..393	4354
	UTERU3006008	2167	2595..3236	4355
10	UTERU3006308	2168	1490..2491	4356
	UTERU3007134	2169	2990..3532	4357
	UTERU3007419	2170	124..3792	4358
	UTERU3007640	2171	2823..3248	4359
	UTERU3007913	2172	138..1775	4360
15	UTERU3008660	2173	3524..4030	4361
	UTERU3008671	2174	1920..2246	4362
	UTERU3009259	2175	2426..2917	4363
	UTERU3009490	2176	3200..3556	4364
	UTERU3009517	2177	2118..2786	4365
20	UTERU3009690	2178	2674..2991	4366
	UTERU3009871	2179	111..1877	4367
	UTERU3009979	2180	1630..3504	4368
	UTERU3011063	2181	28..1614	4369
	UTERU3015086	2182	3216..3713	4370
25	UTERU3015500	2183	985..2088	4371
	UTERU3016789	2184	553..1956	4372
	UTERU3018081	2185	180..3194	4373
	UTERU3018154	2186	1534..3186	4374
	UTERU3018616	2187	267..710	4375
30	UTERU3018711	2188	3597..4106	4376
	3NB692004724	4377	8..1486	4684
	ADRGL2000042	4378	133..996	4685
	ADRGL2000056	4379	158..748	4686
	BLADE2000579	4380	816..1703	4687
35	BLADE2006830	4381	88..1872	4688
	BRACE2002589	4382	972..1334	4689

	BRACE2003609	4383	510..1895	4690
	BRACE2009318	4384	874..1242	4691
	BRACE2011677	4385	79.. 450	4692
	BRACE2029396	4386	38.. 421	4693
5	BRACE2037299	4387	1170..1754	4694
	BRACE2039823	4388	153.. 866	4695
	BRACE2039832	4389	125.. 460	4696
	BRACE2043105	4390	96.. 494	4697
	BRACE3001058	4391	915..2912	4698
10	BRACE3001113	4392	236..3196	4699
	BRACE3003026	4393	128..1453	4700
	BRACE3003053	4394	44..>4212	4701
	BRACE3005107	4395	54.. 458	4702
	BRACE3009127	4396	151..2382	4703
15	BRACE3010076	4397	1095..2828	4704
	BRACE3015829	4398	220.. 585	4705
	BRACE3021148	4399	29.. 637	4706
	BRALZ2017844	4400	173..1192	4707
	BRAMY2019111	4401	989..1768	4708
20	BRAMY2035070	4402	287..2455	4709
	BRAMY2035449	4403	150..1418	4710
	BRAMY2035718	4404	353..1693	4711
	BRAMY2038516	4405	369..1835	4712
	BRAMY2039341	4406	127..1083	4713
25	BRAMY2040159	4407	209..2440	4714
	BRAMY2041434	4408	125.. 550	4715
	BRAMY2045471	4409	148..2295	4716
	BRAMY3004800	4410	181..2736	4717
	BRAWH1000369	4411	412..1350	4718
30	BRAWH2006207	4412	88.. 459	4719
	BRAWH2006395	4413	70.. 975	4720
	BRAWH2008993	4414	756..1061	4721
	BRAWH2009393	4415	179.. 529	4722
	BRAWH2010552	4416	72.. 572	4723
35	BRAWH3007441	4417	2034..2531	4724
	BRAWH3009017	4418	733..1158	4725

	BRCAN2002473	4419	80.. 1060	4726
	BRCAN2002854	4420	36.. 842	4727
	BRCAN2003070	4421	1937.. 2254	4728
	BRCAN2014229	4422	249.. 1259	4729
5	BRCOC2019841	4423	275.. 1591	4730
	BRHIP2002722	4424	411.. 2234	4731
	BRHIP2003272	4425	18.. 464	4732
	BRHIP2005271	4426	108.. 1286	4733
	BRHIP2005724	4427	107.. 1180	4734
10	BRHIP2006617	4428	1568.. 2641	4735
	BRHIP2008389	4429	128.. 781	4736
	BRHIP2012360	4430	74.. 2800	4737
	BRHIP2017553	4431	362.. 2275	4738
	BRHIP2026877	4432	430.. 942	4739
15	BRHIP3000017	4433	37.. 1515	4740
	BRHIP3000240	4434	290.. 1537	4741
	BRHIP3008314	4435	1622.. 2005	4742
	BRHIP3026052	4436	10.. 1632	4743
	BRSTN2013354	4437	286.. 1371	4744
20	BRTHA2002133	4438	1448.. 1957	4745
	BRTHA2002702	4439	269.. 817	4746
	BRTHA2007060	4440	106.. 2979	4747
	BRTHA2010033	4441	823.. 1356	4748
	BRTHA2011321	4442	32.. 373	4749
25	BRTHA2013426	4443	980.. 1588	4750
	BRTHA2013610	4444	71.. 1609	4751
	BRTHA2016318	4445	748.. 1581	4752
	BRTHA2017364	4446	52.. 1638	4753
	BRTHA2017972	4447	92.. 808	4754
30	BRTHA2018011	4448	6.. 929	4755
	BRTHA2018443	4449	23.. 1774	4756
	BRTHA3000296	4450	2006.. 2521	4757
	BRTHA3003000	4451	1170.. 2510	4758
	BRTHA3008826	4452	2082.. 2402	4759
35	CERVX2002013	4453	978.. 1301	4760
	CTONG1000113	4454	538.. 2541	4761

	CTONG2003348	4455	363..1745	4762
	CTONG2004000	4456	538..1869	4763
	CTONG2008721	4457	797..1909	4764
	CTONG2015596	4458	351..1490	4765
5	CTONG2015633	4459	838..1305	4766
	CTONG2016942	4460	122..1387	4767
	CTONG2019822	4461	194..1681	4768
	CTONG2020374	4462	191..3052	4769
	CTONG2020378	4463	1693..2688	4770
10	CTONG2020411	4464	23..3322	4771
	CTONG2020974	4465	968..1711	4772
	CTONG2024031	4466	256..2373	4773
	CTONG2028758	4467	268..>2988	4774
	CTONG3001501	4468	233..1471	4775
15	CTONG3002552	4469	3007..>3950	4776
	CTONG3003598	4470	2111..2905	4777
	CTONG3004550	4471	310..2868	4778
	CTONG3004726	4472	84..2681	4779
	CTONG3009287	4473	745..2388	4780
20	DFNES2011192	4474	209..1540	4781
	FCBBF1000509	4475	407..2356	4782
	FCBBF3010361	4476	253..1266	4783
	FCBBF3027854	4477	435..>2218	4784
	FEBRA2000790	4478	483..839	4785
25	FEBRA2001990	4479	57..1532	4786
	FEBRA2006519	4480	1794..3041	4787
	FEBRA2008692	4481	170..3094	4788
	FEBRA2014122	4482	216..2600	4789
	FEBRA2027609	4483	91..2169	4790
30	FEBRA2028256	4484	365..2983	4791
	FEBRA2028516	4485	62..3109	4792
	HCASM2002754	4486	171..1508	4793
	HCASM2003018	4487	115..>2321	4794
	HCASM2003099	4488	383..2119	4795
35	HCASM2003357	4489	165..491	4796
	HCASM2008536	4490	201..629	4797

	HCASM2009424	4491	121.. 582	4798
	HCHON2000508	4492	59.. 2422	4799
	HCHON2000743	4493	218.. 883	4800
	HCHON2004858	4494	154.. 3285	4801
5	HEART2009680	4495	63.. 1331	4802
	HLUNG2013350	4496	367.. 1299	4803
	HLUNG2015418	4497	73.. 2691	4804
	HLUNG2015548	4498	6.. 1598	4805
	HLUNG2016862	4499	295.. 699	4806
10	HSYRA2005628	4500	454.. 1971	4807
	IMR322001879	4501	147.. 467	4808
	IMR322007078	4502	747.. 1979	4809
	IMR322008651	4503	145.. 1167	4810
	IMR322013396	4504	142.. 2238	4811
15	IMR322013731	4505	81.. >1713	4812
	LIVER2000247	4506	1187.. 2191	4813
	MESAN2001770	4507	415.. 1770	4814
	MESAN2005303	4508	278.. 2362	4815
	MESAN2014412	4509	1589.. 3538	4816
20	MESAN2015501	4510	553.. 2979	4817
	NT2RI2005772	4511	227.. 2035	4818
	NT2RI2008952	4512	187.. 1683	4819
	NT2RI2009583	4513	1127.. 2587	4820
	NT2RI2018448	4514	125.. 1030	4821
25	NT2RI2027157	4515	603.. 2483	4822
	NT2RI3000174	4516	18.. 2501	4823
	NT2RI3001132	4517	281.. 3265	4824
	NT2RI3002557	4518	3660.. >3975	4825
	NT2RI3005928	4519	1784.. 2194	4826
30	NT2RI3007167	4520	205.. 957	4827
	NT2RI3007443	4521	1024.. 3270	4828
	NT2RP7008435	4522	719.. 2437	4829
	NT2RP8000521	4523	635.. 1039	4830
	NTONG2008093	4524	81.. 635	4831
35	OCBBF2003327	4525	35.. 1516	4832
	OCBBF2005433	4526	154.. 2565	4833

	OCBBF2006987	4527	447..3125	4834
	OCBBF2008144	4528	375..>3049	4835
	OCBBF2009583	4529	443..1567	4836
	OCBBF2011669	4530	656..3346	4837
5	OCBBF2019684	4531	161..1555	4838
	OCBBF2020048	4532	109..1152	4839
	OCBBF2024284	4533	70..3063	4840
	OCBBF2030116	4534	445..2574	4841
	OCBBF2032274	4535	46..1053	4842
10	OCBBF2034637	4536	380..1897	4843
	OCBBF3000167	4537	139..1365	4844
	OCBBF3002654	4538	494..2284	4845
	OCBBF3003761	4539	316..2025	4846
	OCBBF3004972	4540	2394..3302	4847
15	PERIC2007068	4541	174..1523	4848
	PLACE7000333	4542	1736..2470	4849
	PLACE7000502	4543	2490..4577	4850
	PROST2000452	4544	1462..2097	4851
	PROST2009320	4545	1640..2221	4852
20	PROST2019487	4546	745..1149	4853
	PUAEN2006335	4547	123..1829	4854
	SKMUS2003194	4548	70..1317	4855
	SPLEN2004611	4549	1058..1651	4856
	SPLEN2016135	4550	70..699	4857
25	SPLEN2016781	4551	1665..2444	4858
	SPLEN2016932	4552	597..1079	4859
	SPLEN2030847	4553	101..931	4860
	SPLEN2033490	4554	1418..1897	4861
	SPLEN2036702	4555	122..2467	4862
30	SPLEN2037319	4556	20..364	4863
	SPLEN2039311	4557	343..768	4864
	SPLEN2039379	4558	4..2199	4865
	STOMA2003158	4559	593..1459	4866
	STOMA2004893	4560	1137..>1566	4867
35	SYNOV1000256	4561	2082..2927	4868
	SYNOV2001660	4562	917..1510	4869

	SYNOV2006620	4563	1036..1692	4870
	SYNOV2013637	4564	36..1085	4871
	SYNOV2021953	4565	375..1640	4872
	SYNOV4002744	4566	469..1302	4873
5	SYNOV4003981	4567	36..2837	4874
	SYNOV4005739	4568	1425..2075	4875
	SYNOV4005889	4569	79..2793	4876
	TBAES2000932	4570	1943..2437	4877
	TESOP2000390	4571	218..1651	4878
10	TESOP2001796	4572	129..1589	4879
	TESOP2005199	4573	108..1586	4880
	TESOP2006398	4574	2557..>3253	4881
	TESOP2006865	4575	256..732	4882
	TESOP2007384	4576	168..1058	4883
15	TESTI1000266	4577	346..807	4884
	TESTI2008901	4578	432..2120	4885
	TESTI2015626	4579	448..1605	4886
	TESTI2025924	4580	163..2028	4887
	TESTI2026647	4581	753..1556	4888
20	TESTI2029252	4582	191..2293	4889
	TESTI2032643	4583	1810..2334	4890
	TESTI2034251	4584	188..>1827	4891
	TESTI2035981	4585	814..1155	4892
	TESTI2036288	4586	86..475	4893
25	TESTI2037830	4587	911..1228	4894
	TESTI2039060	4588	140..2080	4895
	TESTI2049956	4589	438..1856	4896
	TESTI2050780	4590	70..1470	4897
	TESTI4000137	4591	396..2435	4898
30	TESTI4000155	4592	72..3518	4899
	TESTI4000183	4593	258..1160	4900
	TESTI4000214	4594	60..3710	4901
	TESTI4000319	4595	1609..2916	4902
	TESTI4001984	4596	651..1166	4903
35	TESTI4005317	4597	607..2406	4904
	TESTI4006473	4598	166..4188	4905

	TESTI4008058	4599	849..2573	4906
	TESTI4008302	4600	933..2537	4907
	TESTI4010382	4601	160..4062	4908
	TESTI4011070	4602	978..>3811	4909
5	TESTI4011072	4603	255..>3737	4910
	TESTI4011829	4604	2254..>4540	4911
	TESTI4013365	4605	858..2717	4912
	TESTI4013602	4606	3496..3990	4913
	TESTI4013894	4607	367..1077	4914
10	TESTI4014801	4608	1383..2555	4915
	TESTI4015012	4609	1699..3558	4916
	TESTI4015442	4610	12..3323	4917
	TESTI4017714	4611	318..2501	4918
	TESTI4019657	4612	1789..2925	4919
15	TESTI4021482	4613	1..507	4920
	TESTI4024387	4614	404..1063	4921
	TESTI4025268	4615	3..1262	4922
	TESTI4025494	4616	282..2381	4923
	TESTI4025547	4617	5..964	4924
20	TESTI4025865	4618	45..1421	4925
	TESTI4026207	4619	96..2540	4926
	TESTI4028938	4620	200..1711	4927
	TESTI4028958	4621	1336..2502	4928
	TESTI4029348	4622	116..613	4929
25	TESTI4029528	4623	46..2544	4930
	TESTI4029690	4624	165..917	4931
	TESTI4031745	4625	1636..4002	4932
	TESTI4032090	4626	198..998	4933
	TESTI4032112	4627	815..1654	4934
30	TESTI4036767	4628	62..1039	4935
	TESTI4038721	4629	2156..3292	4936
	TESTI4041086	4630	1946..3313	4937
	TESTI4046240	4631	981..1469	4938
	THYMU2004139	4632	407..>2108	4939
35	THYMU2004284	4633	922..1344	4940
	THYMU2006001	4634	230..1663	4941

	THYMU2028739	4635	408.. 1925	4942
	THYMU2030462	4636	1324.. 1725	4943
	THYMU2031139	4637	382.. 1890	4944
	THYMU2031249	4638	643.. 1713	4945
5	THYMU2032976	4639	102.. 482	4946
	THYMU2033401	4640	221.. 646	4947
	THYMU2034279	4641	1718.. 2176	4948
	THYMU2035078	4642	396.. 902	4949
	THYMU2035710	4643	988.. 1443	4950
10	THYMU2040925	4644	179.. 727	4951
	THYMU3000269	4645	1966.. 2742	4952
	THYMU3000360	4646	792.. 1241	4953
	THYMU3001428	4647	486.. 2294	4954
	TKIDN2008778	4648	1512.. 1862	4955
15	TKIDN2012771	4649	2185.. 3315	4956
	TKIDN2018926	4650	59.. 388	4957
	TLIVE2001684	4651	1046.. 2137	4958
	TLIVE2002046	4652	255.. 1334	4959
	TLIVE2007607	4653	220.. 1746	4960
20	TRACH1000212	4654	32.. 3826	4961
	TRACH2000862	4655	259.. 2160	4962
	TRACH2007483	4656	756.. 3095	4963
	TRACH2019672	4657	289.. 1350	4964
	TRACH2024408	4658	392.. >2211	4965
25	TRACH2024559	4659	1450.. 1905	4966
	TRACH3000134	4660	293.. 2488	4967
	TRACH3000420	4661	17.. 3577	4968
	TRACH3002561	4662	2181.. 2603	4969
	TRACH3003683	4663	1157.. 1690	4970
30	TRACH3003832	4664	6.. 2798	4971
	TRACH3007866	4665	183.. 2450	4972
	TUTER2000057	4666	27.. 833	4973
	UTERU2004299	4667	452.. 934	4974
	UTERU2008040	4668	286.. 1521	4975
35	UTERU2011220	4669	453.. 842	4976
	UTERU2019534	4670	551.. 1021	4977

	UTERU2021820	4671	1545..2096	4978
	UTERU2028734	4672	217..1956	4979
	UTERU2032279	4673	1252..2037	4980
	UTERU2033577	4674	164..1009	4981
5	UTERU2035978	4675	56.. 436	4982
	UTERU3000402	4676	798..1598	4983
	UTERU3000738	4677	792..1547	4984
	UTERU3001053	4678	2485..>3535	4985
	UTERU3014791	4679	2452..3027	4986
10	UTERU3015069	4680	2538..3986	4987
	UTERU3015412	4681	67..1464	4988
	UTERU3017176	4682	3512..>3913	4989
	TEST14038779	4683	202..1971	4990

15 Primers used to synthesize polynucleotides can be designed
based on the nucleotide sequences of polynucleotides of the
present invention, shown in SEQ ID NOs in Table 1 above. When
synthesizing full-length cDNAs, an oligo dT primer can be used
as the 3'-end primer. The length of the primer is usually 15-
20 100 bp, and favorably between 15-35 bp. In the case of LA PCR,
described below, a primer length of 25-35 bp provides a good
result.

 Methods for designing a primer that enables specific
amplification based on a target nucleotide sequence are known to
25 those skilled in the art (Current Protocols in Molecular Biology,
Ausubel et al. edit, (1987) John Wiley & Sons, Section 6.1-6.4).
In principle, primers based on 5'-end sequences are designed
such that amplification products will include the translation
start site. Accordingly, for example, when the 5'-end primer is
30 designed based on the nucleotide sequence of the 5' untranslated
region (5'UTR), any part of the 5'-end, which ensures
specificity to the cDNA of interest, can be selected as the
primer.

 When synthesizing a full-length cDNA, the target nucleotide
35 sequence to be amplified can extend to several thousand bp in
some cDNA. Such long nucleotides can be amplified using methods

such as LA PCR (Long and Accurate PCR). The use of LA PCR is advantageous when synthesizing long DNA. In LA PCR, in which a special DNA polymerase having 3' → 5' exonuclease activity is used, misincorporated nucleotides can be removed. Accordingly, accurate synthesis of the complementary strand can be achieved even with a long nucleotide sequence. By using LA PCR, amplification of nucleotides 20 kb or longer can be achieved under desirable conditions (Takeshi Hayashi (1996) Jikken-Igaku Bessatsu, "Advanced Technologies in PCR" Youdo-sha).

Template DNAs for synthesizing the full-length cDNAs of the present invention can be obtained by using cDNA libraries prepared by various methods. The full-length cDNA clones of the present invention are clones with a high probability of completeness in length, obtained by a method comprising the steps of [1] preparing libraries containing cDNAs with a very high fullness ratio using oligo-capping, and [2] assembling 5'-end sequences and selecting those with the highest probability of completeness in length in clusters formed (there are many clones longer in the 5'-end direction).

However, the use of primers designed based on the full-length nucleotide sequences provided by the present invention enable full-length cDNAs to be easily obtained without using such a special technique.

The problem with commercially available cDNA libraries or those prepared by known methods is that mRNA contained in these libraries has a very low fullness ratio. Thus, it is difficult to screen full-length cDNA clones directly from the library using ordinary cloning methods. The present invention has revealed nucleotide sequences of novel full-length cDNA. If such a full-length nucleotide sequence is provided, it is possible to synthesize a target full-length cDNA by using enzymatic reactions such as PCR. In particular, a full-length-enriched cDNA library, synthesized by methods such as oligo-capping, is desirable to more reliably synthesize a full-length cDNA.

The present invention provides isolated polynucleotides comprising the nucleotide sequences of SEQ ID NO: 1 as shown in Table 1, or homologs thereof. As used herein, an "isolated polynucleotide" is a polynucleotide whose structure is not identical to that of any naturally occurring polynucleotide or to that of any fragment of a naturally occurring genomic polynucleotide spanning more than three separate genes. The term therefore includes, for example, (a) a DNA which comprises the sequence of part of a naturally occurring genomic DNA molecule in the genome of the organism in which it naturally occurs; (b) a polynucleotide incorporated into a vector or into the genomic DNA of a prokaryote or eukaryote such that the resulting molecule is not identical to any naturally occurring vector or genomic DNA; (c) a separate molecule such as a cDNA, a genomic fragment, a fragment produced by polymerase chain reaction (PCR), or a restriction fragment; and (d) a recombinant nucleotide sequence that is part of a hybrid gene, i.e., a gene encoding a fusion polypeptide. Specifically excluded from this definition are polynucleotides of DNA molecules present in mixtures of different (i) DNA molecules, (ii) transfected cells, or (iii) cell clones; e.g., as these occur in DNA libraries such as cDNA or genomic DNA libraries.

The 5'-end sequence of the full-length cDNA clones of this invention can be used to isolate the regulatory elements of transcription, including the promoter on the genome. A rough draft of the human genome (an analysis of the human genomic sequence with lower accuracy), which covers 90% of the genome, has been reported (Nature, Vol.409, 814-823, 2001), and by the year 2003, analysis of the entire human genomic sequence will be finished. However, using software to analyze transcription start sites on the human genome, in which long introns exist, is difficult. In contrast, it is easy to specify transcription start sites in the genomic sequence using nucleotide sequences which include the 5'-end of the full-length cDNA clones of the present invention, and thus it is easy to obtain genomic regions

involved in transcription regulation, which include promoters contained upstream of the transcription start site.

The polypeptides encoded by the full-length cDNAs of the invention can be prepared as recombinant polypeptides or as natural polypeptides. For example, a recombinant polypeptide can be prepared by inserting a polynucleotide encoding a polypeptide of the present invention into a vector, introducing the vector into an appropriate host cell, and purifying the polypeptide expressed within that transformed host cell, as described below. In contrast, a natural polypeptide can be prepared, for example, by utilizing an affinity column to which is attached an antibody against a polypeptide of the present invention (Current Protocols in Molecular Biology (1987) Ausubel et al. edit, John Wiley & Sons, Section 16.1-16.19). The antibody used for affinity purification may be either a polyclonal antibody, or a monoclonal antibody. Alternatively, *in vitro* translation (see, for example, "On the fidelity of mRNA translation in the nuclease-treated rabbit reticulocyte lysate system." Dasso M.C., and Jackson R.J. (1989) Nucleic Acids Res. 17: 3129-3144) may be used for preparing a polypeptide of the invention.

The present invention provides substantially pure proteins encoded by the full-length cDNAs of the present invention. The term "substantially pure" herein used in reference to a given protein or polypeptide means that the protein or polypeptide is substantially free from other biological macromolecules. For example, the substantially pure protein or polypeptide is at least 75%, 80%, 85%, 95%, or 99% pure by dry weight. Purity can be measured by any appropriate standard method known in the art, for example, by column chromatography, polyacrylamide gel electrophoresis, or HPLC analysis.

Polypeptides functionally equivalent to the polypeptides of the present invention can be prepared based on the activities of the polypeptides of the present invention, clarified in the above-mentioned manner. Whether or not a particular polypeptide is functionally equivalent to a polypeptide of the present

invention can be verified by using the biological activity of the polypeptide of the present invention as an index to examine whether that polypeptide has the said activity.

Polypeptides functionally equivalent to polypeptides of the present invention can be prepared by those skilled in the art, for example, by using a method for introducing mutations into a polypeptide amino acid sequence (for example, site-directed mutagenesis (Current Protocols in Molecular Biology, edit, Ausubel et al., (1987) John Wiley & Sons, Section 8.1-8.5)). Such polypeptides can also be generated by spontaneous mutations. The present invention also includes polypeptides comprising the amino acid sequences shown in Table 1 in which one or more amino acids are substituted, deleted, inserted, and/or added, as long as the polypeptides have a function equivalent to that of a polypeptide identified in the Examples of the present invention, described later.

There are no limitations as to the number and site of amino acid mutation, as long as polypeptide function is maintained. The number of mutations typically corresponds to 30% or less, or 20% or less, or 10% or less, preferably 5% or less or 3% or less of the total amino acids, more preferably 2% or less or 1% or less of the total amino acids. Alternatively, herein, substitution of one or more amino acids includes substitution of several amino acids. As used herein, the term "several amino acids" means, for example, five amino acids, preferably four or three amino acids, more preferably two amino acids, and further preferably one amino acid.

Herein "conservative amino acid substitution" refers to substitution of an amino acid residue belonging to a group comprising a chemically similar side chain, with another amino acid in the same group. Groups of amino acid residues having similar side chains have been defined in the art. These groups include amino acids with basic side chains (e.g., lysine, arginine, histidine), acidic side chains (e.g., aspartic acid, glutamic acid), uncharged polar side chains (e.g., glycine, asparagine, glutamine, serine, threonine, tyrosine, cysteine),

nonpolar side chains (e.g., alanine, valine, leucine, isoleucine, proline, phenylalanine, methionine, tryptophan), beta-branched side chains (e.g., threonine, valine, isoleucine) and aromatic side chains (e.g., tyrosine, phenylalanine, tryptophan, histidine).

In addition, polypeptides functionally equivalent to the polypeptides of the present invention can be isolated by using techniques of hybridization or gene amplification known to those skilled in the art. Specifically, using hybridization (Current Protocols in Molecular Biology, edit, Ausubel et al., (1987) John Wiley & Sons, Section 6.3-6.4)), those skilled in the art can usually isolate a polynucleotide highly homologous to a polynucleotide encoding the polypeptide identified in the present Example, based on the identified nucleotide sequence (Table 1) or a portion thereof, and obtain a functionally equivalent polypeptide from the isolated polynucleotide. The present invention includes polypeptides encoded by polynucleotides which hybridize with the polynucleotides encoding the polypeptides identified in the present Example, as long as the polypeptides are functionally equivalent to those identified in the present Example. Organisms from which the functionally equivalent polypeptides are isolated include but are not limited to vertebrates such as humans, mice, rats, rabbits, pigs and cows.

Washing conditions for hybridization for polynucleotide isolation encoding functionally equivalent polypeptides are usually "1x SSC, 0.1% SDS, 37°C"; more stringent conditions are "0.5x SSC, 0.1% SDS, 42°C"; and still more stringent conditions are "0.1x SSC, 0.1% SDS, 65°C". Alternatively, the following conditions can be given as hybridization conditions of the present invention. Namely, conditions in which hybridization is performed at "6x SSC, 40% Formamide, 25°C", and washing at "1x SSC, 55°C" can be given. More preferable conditions are those in which hybridization is performed at "6x SSC, 40% Formamide, 37°C", and washing at "0.2x SSC, 55°C". Even more preferable are those in which hybridization is performed at "6x SSC, 50% Formamide,

37°C", and washing at "0.1x SSC, 62°C". The more stringent the hybridization conditions, the more frequently polynucleotides highly homologous to the probe sequence are isolated. Therefore, it is preferable to conduct hybridization under stringent
5 conditions. Examples of stringent conditions in the present invention are, washing conditions of "0.5x SSC, 0.1% SDS, 42°C", or alternatively, hybridization conditions of "6x SSC, 40% Formamide, 37°C", and washing at "0.2x SSC, 55°C".

One skilled in the art can suitably select various
10 conditions, such as SSC dilution ratio, formamide concentration, and temperature, to accomplish a similar stringency.

The above-mentioned combinations of SSC, SDS, and temperature conditions are indicated just as examples. Those skilled in the art can select hybridization conditions with
15 similar stringency to those mentioned above by properly combining the above-mentioned or other factors that determine hybridization stringency (for example, probe concentration, probe length, and duration of hybridization reaction).

The amino acid sequences of polypeptides isolated by using
20 hybridization techniques usually have high identity to those of the polypeptides of the present invention, shown in Table 1. The present invention encompasses polynucleotides comprising a nucleotide sequence with high identity to the nucleotide sequence of claim 1 (a). Furthermore, the present invention
25 encompasses peptides, or polypeptides comprising an amino acid sequence with high identity to the amino acid sequence encoded by the polynucleotide of claim 1 (b). The term "high identity" indicates sequence identity of at least 40% or more; preferably 60% or more; and more preferably 70% or more. Even more
30 preferable is identity of 90% or more, 93% or more, or 95% or more. Further more preferable is 97% or more, or 99% or more. Identity can be determined using the BLAST search algorithm.

As used herein, "percent identity" of amino acid sequences or nucleic acids is determined using the BLAST algorithm of
35 Karlin and Altschul (Proc. Natl. Acad. Sci. USA 90:5873-5877, 1993). Such an algorithm is incorporated into the BLASTN and

BLASTX programs of Altschul et al. (J. Mol. Biol. 215:403-410, 1990). BLAST nucleotide searches are performed with the BLASTN program, using for example, score = 100, wordlength = 12. BLAST protein searches are performed with the BLASTX program, using
5 for example, score = 50, wordlength = 3. When utilizing the BLAST and Gapped BLAST programs, the default parameters of each program are used. See <http://www.ncbi.nlm.nih.gov>.

Using the gene amplification technique (PCR) (Current Protocols in Molecular Biology, edit, Ausubel et al., (1987)
10 John Wiley & Sons, Section 6.1-6.4)) and primers designed based on the nucleotide sequences (Table 1) or portions thereof as identified in the present Example, it is possible to isolate polynucleotide fragments highly homologous to the polynucleotide sequences or portions thereof, and to obtain polypeptides
15 functionally equivalent to a particular polypeptide identified in the present Example, based on the isolated polynucleotide fragment.

The present invention also provides polynucleotides containing at least 15 nucleotides complementary to a
20 polynucleotide comprising a nucleotide sequence of SEQ ID NOS shown in Table 1, or the complementary strand thereof. Herein, the term "complementary strand" is defined as the other strand to one strand of a double stranded DNA composed of A:T and G:C base pairs. In addition, "complementary" is not only defined as
25 sequences completely matching a continuous region of at least 15 nucleotides, but is also defined to include sequences comprising identity of at least 70%, favorably 80% or higher, more favorably 90% or higher, and most favorably 95% or higher within that region. Identity may be determined using the algorithm
30 described herein.

Such polynucleotides includes probes and primers used for the detection and amplification of polynucleotides encoding the inventive polypeptides. When used as a primer, such a polynucleotide usually comprises 15 to 100 bp, and preferably of
35 15 to 35 bp. When used as a probe, such a polynucleotide comprises the whole or a part of the sequence of a

polynucleotide of the present invention, and comprises at least 15 bp. When used as a primer, such a polynucleotide is complementary at the 3'-end, and restriction enzyme recognition sequences or tags can be added to the 5'-end.

5 Furthermore, polynucleotides of the present invention include antisense polynucleotides for suppressing the expression of a polypeptide of the present invention, which comprises an amino acid sequence of SEQ ID NOs shown in Table 1. To exert an antisense effect, an antisense polynucleotide has at least 15 bp
10 or more, for example 50 bp or more, preferably 100 bp or more, and more preferably 500 bp or more, and usually has 3000 bp or less, and preferably 2000 bp or less. Antisense polynucleotides can be used in gene therapy of diseases caused by abnormalities of the polypeptides of the invention (abnormal function or
15 abnormal expression). An antisense polynucleotide can be prepared, for example, using the phosphorothioate method ("Physicochemical properties of phosphorothioate oligodeoxynucleotides." Stein (1988) Nucleic Acids Res. 16: 3209-3221) based on the sequence information of polynucleotides
20 encoding a polypeptide of this invention (for example, the nucleotide sequences of SEQ ID NOs: 1 to 2188 and SEQ ID NOs: 4377 to 4683).

The present invention also includes polynucleotides that can use ribozyme or RNA interference (RNAi) activity to
25 downregulate expression of a polynucleotide of the present invention, where such a polynucleotide can be designed based on the nucleotide sequence of the polynucleotide of the present invention.

A ribozyme is a polynucleotide that comprises 1) an
30 antisense sequence of a polynucleotide of the present invention, and 2) the nucleotide sequence of a catalytic unit required for catalytic action. The antisense sequence constituting the ribozyme can be appropriately selected to be compatible with the structure of the ribozyme's catalytic unit. The ribozyme's
35 catalytic unit is well known in the art. For example, the hammer-head ribozyme (Rossi et al. (1991) Pharmac. Ther. 50:

245-254) and hairpin ribozyme (Hampel et al. (1990) Nucl. Acids Res. 18: 299-304, and U.S. Pat. No. 5,254,678) are known to have nucleotide sequence-specific cleaving activity. These ribozymes use this catalytic activity to cleave, at a specific position, polynucleotides which hybridize to the antisense sequence.

For example, the autolytic domain of a hammer-head ribozyme cleaves on the 3' side of C15 in the sequence G13U14C15. Base pairing between U14 and A9 plays an important role in this activity, and A15 or U15 can be cleaved instead of C15 (Koizumi M, et al: FEBS Lett 228: 228, 1988). A restriction enzyme-like RNA-cleaving ribozyme that recognizes the target RNA sequences UC, UU, or UA can be produced by designing the ribozyme such that the substrate binding site complements the RNA sequence near the target site (Koizumi, M. et al., FEBS Lett, 239:285, 1988; Koizumi, M. and Otsuka, E., Protein, Nucleic acid, and Enzyme, 35:2191, 1990; Koizumi, M. et al., Nucl Acids Res, 17:7059, 1989). For example, the polynucleotides of the present invention (SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683) contain a number of potential target sites. The polynucleotides of the present invention can be cleaved at desired positions with a ribozyme which contains an appropriately selected antisense sequence.

The ribozyme preferably comprises RNA and may be synthesized chemically or produced by enzymatic reaction. Methods of chemical synthesizing RNA are known in the art. Alternatively, the ribozyme can be produced by using RNA polymerase to transcribe a polynucleotide encoding the ribozyme. To produce a ribozyme by transcription, a polynucleotide encoding the ribozyme is arranged downstream of a promotor recognized by an RNA polymerase. Such RNA polymerases include T7 RNA polymerase and SP6 RNA polymerase. Alternatively, a ribozyme can be expressed in a host cell by inserting a polynucleotide encoding the ribozyme into an appropriate vector, and then introducing the vector into a host cell. The vector contains a promotor that can direct the expression of the gene in the host cell.

The present invention also provides siRNA (small interfering RNA) that downregulates the expression of a polynucleotide of the present invention. siRNA is a technique for controlling gene expression that inhibits protein synthesis from an mRNA by using a double-stranded RNA which comprises the same nucleotide sequence as that mRNA (Fire et al. (1998) Nature 391: 806-811). The effect of downregulating gene expression using double-stranded RNA is called "the RNAi effect". siRNA has been reported to effectively control gene expression in mice (Zamore et al. (2000) Cell 101:25-33; Gura (2000) Nature 404: 804-808). Thus the introduction of such a double-stranded RNA into cells can result in selective downregulation of target gene expression.

There is no limitation as to the length of the siRNAs. The double-stranded RNAs introduced into cells are enzymatically digested inside these cells, starting from their original 3' end and forming fragments of 21 bp to 23 bp. The enzyme that digests the double-stranded RNA is called 'dicer'. The resulting double-stranded RNA fragments recognize and bind to target nucleotide sequences which comprise the same sequence. The nucleotide sequence is then cleaved by the activity of RNase III-like nuclease (Hammond et al. (2000) Nature, 404: 293-298; Zamore et al. (2000) Cell 101: 25-33).

siRNA is introduced into cells to downregulate gene expression using RNAi activity. siRNA can be introduced into cells using the same methods as for ribozymes. Specifically, chemically-synthesized, double-stranded RNA can be introduced into cells. When synthesized RNA, including antisense RNA and siRNA, is intended for introduction into cells, it can be pre-modified to prevent degradation by nuclease. For example, thiolated RNA is protected from nuclease degradation.

Alternatively, siRNA can be expressed in cells. For example, siRNA can be expressed in cells by inserting a sense sequence and its corresponding antisense sequence into a vector, and then transforming cells with that vector. When the two strands are adjacent, the expressed double-stranded RNA will

have a hairpin-loop structure. When the two strands are expressed under the control of different promoters, the resulting double-stranded RNA will comprise two separate strands. Promoters generally used for the expression of siRNA include the U6 promotor.

The nucleotide sequence of an antisense polynucleotide, ribozyme, or siRNA of the present invention may be completely identical or complementary to any one of the nucleotide sequences of SEQ ID NOs: 1-2188 and SEQ ID NOs: 4377-4683, or may have high homology to these nucleotide sequences. The phrase "high homology" to an antisense polynucleotide, ribozyme, or siRNA nucleotide sequence typically means 90% or higher homology, preferably 95% or higher homology, more preferably 98% or higher homology, and still more preferably 99% or higher homology. The homology of a nucleotide sequence can be estimated, for example, by a method described herein.

One skilled in the art can design siRNA based on the nucleotide sequence of a gene whose expression is to be downregulated. The typical methods for designing siRNA include, for example, those described below. To begin with, it is advantageous to avoid using as target sequences: 1) 5'- or 3'- untranslated regions, and 2) regions adjacent to the start codon.

These regions often serve as binding regions for transcriptional regulatory proteins. In addition, these regions may also contain nucleotide sequences conserved among various mRNAs, and thus they may act to inhibit the expression of genes other than the gene of interest.

Thus, it may be advantageous to arrange the target sequence, for example, within the ORF downstream of the start codon. It is preferable to adjust the number of nucleotides between the start codon and the target sequence, for example, to 50 nucleotides or more. Typically, the nucleotide sequence of an siRNA is designed so that it starts from an aa sequence and comprises 19-21 consecutive nucleotides. A dinucleotide overhang is added to one end of siRNA. The nucleotide sequence of such an overhang may include doublets, dTdT or UU sequences.

The GC content of a nucleotide sequence constituting siRNA is preferably about 50%. G and C nucleotide residues are preferably uniformly distributed throughout the siRNA.

5 The action of siRNA is based on sequence-specific mRNA hybridization. Thus, to achieve downregulation specific to a particular gene, it is essential to make the target nucleotide sequence as specific as possible to that gene. It is thus preferable to use homology searches to confirm that the proposed target nucleotide sequence exhibits negligible homology with
10 other genes. Nucleotide sequence homology can be determined using established algorithms.

As long as an siRNA of the present invention downregulates the expression of a polynucleotide of the present invention, it is not limited to nucleotide sequences obtained using the
15 typical design method described above. For example, even if the target sequence is not specific to the nucleotide sequence of a particular gene, it can specifically downregulate the expression of a gene of interest in cells which do not express genes comprising homologous nucleotide sequences. Furthermore,
20 double-stranded RNA having RNAi activity can be obtained without using the above-described methods typically used to select a target sequence.

The polynucleotides or antisense polynucleotides, ribozymes, and siRNAs of the present invention can be used in, for example,
25 gene therapy. Preferable target diseases may be, for example, cancers or various inflammatory diseases. Such molecules can be used for gene therapy, for example, by administering them to patients *in vivo* or *ex vivo* using viral vectors such as retroviral vectors, adenoviral vectors, and adeno-related viral
30 vectors, or non-viral vectors such as liposomes.

The present invention also includes partial peptides of the polypeptides of the invention. Such a partial peptide comprises a polypeptide generated as a result of removing a signal peptide from a secretory protein. If a polypeptide of the present
35 invention has activity as a receptor or ligand, the partial peptide may function as a competitive inhibitor of the

polypeptide, and may bind to the receptor (or ligand). In addition, the present invention includes an antigen peptide for raising antibodies. For the peptides to be specific to a polypeptide of the present invention, the peptides comprise at least seven amino acids, preferably eight amino acids or more, more preferably nine amino acids or more, and even more preferably ten amino acids or more. The peptide can be used to prepare an antibody against or competitive inhibitor of a polypeptide of the present invention, and can also be used to screen for a receptor that binds to the polypeptide of this invention. The partial peptides of this invention can be produced, for example, by genetic engineering methods, known methods for synthesizing peptides, or by digesting a polypeptide of the invention with an appropriate peptidase.

The present invention also relates to a vector into which a polynucleotide of the invention is inserted. Vectors of the present invention are not limited as long as they can contain the inserted polynucleotide stably. For example, if *E. coli* is used as a host, vectors such as pBluescript vector (Stratagene) are preferred cloning vectors. To produce a polypeptide of the invention, expression vectors are especially useful. Any expression vector can be used as long as it is capable of expressing the polypeptide *in vitro*, in *E. coli*, in cultured cells, or *in vivo*. For example, pBEST vector (Promega) is preferable for *in vitro* expression, pET vector (Invitrogen) for *E. coli*, pME18S-FL3 vector (GenBank Accession No. AB009864) for cultured cells, and pME18S vector (Mol. Cell. Biol. (1988) 8: 466-472) for *in vivo* expression. To insert a polynucleotide of the present invention, ligation utilizing restriction sites can be performed according to standard methods (Current Protocols in Molecular Biology (1987) Ausubel et al. edit, John Wiley & Sons, Section 11.4-11.11).

The GATEWAYTM system (Invitrogen), which is an expression vector construction system for polypeptide expression, can also be used (Experimental Medicine, Vol. 18, No. 19 (December), p2716-2717, 2000). This system includes two types of site-

specific recombinases (BP CLONASETM and LR CLONASETM) derived from lambda phage and uses BP CLONASETM-specific recombination sites for the Entry Vector, and LR CLONASETM-specific recombination sites for the Destination Vector, which may comprise a tag
5 useful for polypeptide purification. With this system, an expression vector can be obtained by using homologous recombination.

First, a polynucleotide fragment of interest is inserted into the entry vector using the first recombination. Then, a
10 second recombination is allowed to take place between the entry vector, where the polynucleotide fragment of interest has been inserted, and the destination vector. Thus, the expression vector can be prepared rapidly and efficiently. Using the above-mentioned typical restriction enzyme/ligase reaction
15 method, expression vector construction and expression of a polypeptide of interest takes about seven to ten days. However, using the GATEWAYTM system, the polypeptide of interest can be expressed and prepared in only three to four days. Thus, the system ensures a high-throughput functional analysis for
20 expressed polypeptides (<http://biotech.nikkeibp.co.jp/netlink/lto/gateway/>).

The present invention also relates to a transformant carrying a vector of the present invention. Any cell can be used as a host into which a vector of this invention is inserted,
25 and various kinds of host cells can be used depending on the purpose. For example, COS cells or CHO cells can be used for strong expression of the polypeptide in eukaryotic cells.

Introduction of such a vector into host cells can be performed, for example, by calcium phosphate precipitation,
30 electroporation (Current Protocols in Molecular Biology (1987) Ausubel et al. edit, John Wiley & Sons, Section 9.1-9.9), lipofectamine method (GIBCO-BRL), or microinjection, etc.

Further, a polynucleotide containing at least 15 nucleotides comprising a nucleotide sequence of any one of the
35 polynucleotides comprising the nucleotide sequences of SEQ ID NOs shown in Table 1, or the complementary strand thereof, can

be used not only as a primer for synthesizing full-length cDNAs, but also for testing and diagnosing abnormalities of the polypeptide encoded by the full-length cDNA of the present invention. For example, by utilizing polymerase chain reaction (genomic DNA-PCR, or RT-PCR) using a polynucleotide of this invention as a primer, a polynucleotide encoding a polypeptide of the invention can be amplified. It is also possible to obtain the regulatory region of expression in the 5'-upstream by using PCR or hybridization, since the transcription start site within the genomic sequence can be easily specified based on the 5'-end sequence of the full-length cDNA. The obtained genomic region can be used for detection and/or diagnosis of sequence abnormality using RFLP analysis, SSCP, or sequencing. Where expression of an mRNA of the present invention varies according to a specific disease, analysis of the amount of mRNA expression using a polynucleotide of the present invention as a probe or a primer enables detection and diagnosis of that disease.

The present invention also relates to antibodies that bind to a polypeptide of the present invention. There are no limitations as to the form of the antibodies of this invention. They include polyclonal antibodies, monoclonal antibodies, or portions thereof that can bind to an antigen. They also include antibodies of all classes. Furthermore, special antibodies such as humanized antibodies and chimeric antibodies are also included.

A polyclonal antibody of this invention can be obtained according to the standard method of synthesizing an oligopeptide corresponding to an amino acid sequence, and immunizing rabbits with that peptide (Current Protocols in Molecular Biology (1987) Ausubel et al. edit, John Wiley & Sons, Section 11.12-11.13). A monoclonal antibody of the present invention can be obtained according to the standard method of purifying a polypeptide expressed in *E. coli*, immunizing mice with that polypeptide, and producing a hybridoma cell by fusing spleen cells and myeloma cells (Current Protocols in Molecular Biology (1987) Ausubel et al. edit, John Wiley & Sons, Section 11.4-11.11).

An antibody binding to a polypeptide of the present invention can be used for purification of the polypeptide of the invention, and also for detection and/or diagnosis of abnormalities of the expression and structure of that polypeptide. Specifically, polypeptides can be extracted, for example, from tissues, blood, or cells, and a polypeptide of this invention can then be detected for the above purpose using Western blotting, immunoprecipitation, or ELISA.

Furthermore, an antibody binding to a polypeptide of the present invention can be utilized for treating a disease associated with that polypeptide. If the antibody is used to treat patients, human antibodies, humanized antibodies, or chimeric antibodies are preferred due to their low antigenicity. Human antibodies can be prepared by immunizing a mouse whose immune system is replaced with that of a human (e.g., see "Functional transplant of megabase human immunoglobulin loci recapitulates human antibody response in mice" Mendez, M.J. et al. (1997) Nat. Genet. 15: 146-156). These humanized antibodies can be prepared by recombination of the hypervariable region of a monoclonal antibody (Methods in Enzymology (1991) 203: 99-121).

The cDNAs (clones) of the present invention include polypeptide sequences encoding proteins whose function can be predicted, such as, for example, secretory and/or membrane proteins, glycoprotein-related proteins, signal transduction-related proteins, transcription-related proteins, disease-related proteins, enzyme and/or metabolism-related proteins, cell division- and/or cell proliferation-related proteins, cytoskeleton-related proteins, nuclear protein and/or RNA synthesis-related proteins, protein synthesis and/or transport-related proteins, cellular defense-related proteins, development and/or differentiation-related proteins, DNA- and/or RNA-binding proteins, ATP- and/or GTP-binding proteins. The results of cDNA homology searches can be used to estimate whether a cDNA sequence comprises the function of an above-described protein. Specifically, the function of a polypeptide encoded by a cDNA of the present invention can be inferred by (a) searching for a

known gene or protein which is homologous to the complete or partial nucleotide sequence of the full-length cDNA of the present invention, and (b) comparing the function of the gene and that of the protein encoded by the gene.

5 Alternatively, the function of a polypeptide encoded by a cDNA of the present invention can be predicted when a signal sequence, transmembrane domain, nuclear translocation signal, glycosylation signal, phosphorylation site, zinc-finger motif, SH3 domain, or such is found in the amino acid sequence. In
 10 particular, partial sequence structures such as motif and domain structures are commonly found in a number of proteins, and comprise a minimal functional protein structure. The Pfam database identifies a total of 4,832 types of motifs and domains, including both those whose functions have been clarified and
 15 those whose functions remain unclear (<http://www.sanger.ac.uk/Software/Pfam/index.shtml>) Version 7.7 (the latest version as of December 2002).

A specific example of motif/domain function is shown below. The ITAM motif (immunoreceptor tyrosine-based activation motif)
 20 is found in the intracellular region of the T cell receptor which is expressed on the cell membrane of T cells participating in an immune response (Flaswinkel, H. et al. Semin Immunol 1995 Feb,7(1):21-7). The ITAM motif has a tandem YXXL structure (tyrosine-arbitrary amino acid-arbitrary amino acid-leucine).
 25 On extracellular stimulus by an antigen or antibody, the tyrosine in the motif is phosphorylated by an enzyme (LCK) with a kinase domain. Then, ZAP70 binds to the phosphorylated tyrosine via the SH2 domain, resulting in downstream signal transduction (Bu, J.Y. et al., Proc Natl Acad Sci U S A 1995 May
 30 23, 92(11):5106-10; Neumeister, E.N. et al., Mol Cell Biol 1995 June, 15(6):3171-8).

A similar phenomenon has been found in mast cells as well as in T cells (Chen, T. et al., J Biol Chem 1996 Oct 11, 271(41):25308-15). Thus, at the molecular level, such a
 35 phenomenon is the first step in the activation of immune cells

in immunologic diseases such as allergies, atopic dermatitis, and asthma.

Even in a simple exemplary scheme such as the one described above, there are three major motif/domain structures - ITAM, the SH2 domain, and the protein kinase domain - each of which play an important role. The mechanism of this scheme can be interpreted using these three structures. Thus, collecting, categorizing and elucidating the function of molecules that comprise common motif/domain structures is exceedingly important in understanding the molecular-based mechanisms of various cellular functions, including and in addition to the immune response described herein. Searching for motif/domain structures is highly important as the first step in elucidating the functions of unknown polypeptides. It is also understood that an entire polypeptide structure is comprised by minimal structures such as motifs and domains, thus providing the overall function of an entire polypeptide.

The overall function of a polypeptide in cells can be accurately predicted at the molecular level using data obtained by domain and motif structure analysis. In addition, a fusion polypeptide comprising a partial amino acid sequence and a GFP protein or the like may be prepared, and then introduced into cultured cells. For example, if a polypeptide is localized on the cell membrane, it may function as a receptor or ion channel. Alternatively, if a polypeptide is localized in the nucleus, it can be predicted to serve as a polynucleotide-binding protein or to participate in transcription. Thus, the function of a polypeptide can also be predicted by determining its localization.

The function of a full-length cDNA obtained in the present invention can be predicted by carrying out the above-described analysis using its entire nucleotide sequence and the amino acid sequence it encodes. Even when the full-length cDNA nucleotide sequence is not available, a partial sequence thereof (preferably 300 nucleotides or more) often enables function to be predicted. However, function predicted based on information

yielded in a partial sequence homology search will not necessarily be the same as that based on a full-length sequence. Functional prediction based on a full-length nucleotide sequence is obviously preferable.

5 A more specific method for predicting function involves homology searches of databases such as GenBank, Swiss-Prot, UniGene, nr and RefSeq, using BLAST or FASTA. The functions of polypeptides encoded by the cDNAs of the present invention can be predicted based on hit genes and the function of polypeptides
10 encoded by these genes. Polypeptide functions can be predicted from the amino acid sequences deduced from the structure of the full-length nucleotide sequences. In this way, signal sequences and transmembrane domains can be predicted from amino acid sequences using PSORT [K. Nakai & M. Kanehisa, Genomics, 14:
15 897-911 (1992)], SOSUI [T. Hirokawa et al., Bioinformatics, 14, 378-379 (1998)] (Mitsui Knowledge Industry Co., Ltd.), MEMSAT [D. T. Jones, W. R. Taylor & J. M. Thornton, Biochemistry, 33, 3038-3049 (1994)], and the like. Alternatively, motifs and domains can be predicted from amino acid sequences by carrying out
20 searches using Pfam, PROSITE (<http://www.expasy.ch/prosite/>), or such. The above-described procedures facilitate more accurate prediction of polypeptide function.

The databases GenBank, Swiss-Prot, UniGene, nr and RefSeq were searched as described above for homology to the 2,495 full-
25 length clone sequences of the present invention whose full-length nucleotide had been determined (see Example 4 and the results of homology searches). In addition, the amino acid sequences deduced from the full-length nucleotide sequences were analyzed by database searches for signal sequences and
30 transmembrane domains using PSORT and SOSUI (see Example 5). The clones were categorized into the fourteen functional categories shown below, based on 1) the results of annotation-based functional prediction (by referring to keywords in the hit data of Swiss-Prot, or to Definitions and Reference information
35 in the hit data of GenBank, UniGene, nr or RefSeq), 2) the results of PSORT searches for signal sequences using the deduced

ORFs and 3) the results of SOSUI searches for transmembrane domains using the deduced ORFs. As a result, 1,229 clones were estimated to encode proteins belonging to the categories described below.

- 5 Secretory and/or membrane protein (741 clones)
 Glycoprotein-related protein (130 clones)
 Signal transduction-related protein (111 clones)
 Transcription-related protein (102 clones)
 Disease-related protein (426 clones)
- 10 Enzyme and/or metabolism-related protein (230 clones)
 Cell division- and/or cell proliferation-related protein (52 clones)
 Cytoskeleton-related protein (61 clones)
 Nuclear protein and/or RNA synthesis-related protein (58 clones)
- 15 Protein synthesis- and/or transport-related protein (72 clones)
 Cellular defense-related protein (seven clones)
 Development and/or differentiation-related protein (14 clones)
 DNA- and/or RNA-binding protein (129 clones)
 ATP- and/or GTP-binding protein (92 clones)
- 20 The clones predicted to belong to the category of secretory protein and/or membrane protein are the following 659 clones.
 ACTVT2000380, ADIPS2000088, ADRGL2000172, ADRGL2003329,
 ADRGL2009146, ASTRO2014923, ASTRO3000301, BLADE1000176,
 BLADE2002073, BLADE2002947, BLADE2004462, BLADE2004670,
 25 BLADE2005036, BLADE2008539, BNGH42003570, BRACE1000186,
 BRACE2005457, BRACE2014306, BRACE2016981, BRACE2029112,
 BRACE2030884, BRACE2031527, BRACE2031531, BRACE2031899,
 BRACE2032385, BRACE2036005, BRACE2039249, BRACE2039327,
 BRACE2040138, BRACE2041200, BRACE2043142, BRACE2043665,
 30 BRACE2046295, BRACE3000697, BRACE3001391, BRACE3002298,
 BRACE3003004, BRACE3003595, BRACE3004058, BRACE3004113,
 BRACE3004772, BRACE3004843, BRACE3006462, BRACE3008137,
 BRACE3008384, BRACE3009574, BRACE3009708, BRACE3010397,
 BRACE3011271, BRACE3011505, BRACE3013740, BRACE3014005,
 35 BRACE3014068, BRACE3014807, BRACE3016884, BRACE3018963,
 BRACE3019084, BRACE3020286, BRACE3020594, BRACE3024662,

BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026735,
 BRACE3027326, BRACE3031838, BRACE3040856, BRALZ2016085,
 BRAMY2001473, BRAMY2004771, BRAMY2005052, BRAMY2017528,
 BRAMY2019300, BRAMY2019963, BRAMY2021498, BRAMY2028856,
 5 BRAMY2033003, BRAMY2033116, BRAMY2033594, BRAMY2036396,
 BRAMY2039872, BRAMY2040592, BRAMY2041542, BRAMY2045036,
 BRAMY2047420, BRAMY2047751, BRAMY2047765, BRAMY3002312,
 BRAMY3004224, BRAMY3004919, BRAMY3007206, BRAMY3007609,
 BRAMY3008505, BRAMY4000095, BRASW1000125, BRAWH1000127,
 10 BRAWH2002560, BRAWH2002761, BRAWH2007658, BRAWH2014414,
 BRAWH2014954, BRAWH2016221, BRAWH2016439, BRAWH2016702,
 BRAWH3000078, BRAWH3000314, BRAWH3001475, BRAWH3001891,
 BRAWH3002600, BRAWH3003555, BRAWH3003727, BRAWH3003992,
 BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005912,
 15 BRAWH3006548, BRAWH3007221, BRAWH3007506, BRAWH3007592,
 BRAWH3008634, BRCAN2002948, BRCAN2006063, BRCAN2009203,
 BRCAN2010376, BRCAN2012355, BRCAN2012481, BRCAN2013655,
 BRCAN2014143, BRCAN2016619, BRCAN2024451, BRCOC2007034,
 BRCOC2019934, BRHIP2000691, BRHIP2001805, BRHIP2002172,
 20 BRHIP2004814, BRHIP2004883, BRHIP2005236, BRHIP2005752,
 BRHIP2009414, BRHIP2013699, BRHIP2026288, BRHIP3000526,
 BRHIP3007483, BRHIP3007586, BRHIP3008598, BRHIP3009448,
 BRHIP3015751, BRHIP3024118, BRHIP3026097, BRSSN2003086,
 BRSSN2004496, BRSSN2008549, BRSSN2011738, BRSSN2014424,
 25 BRSSN2018925, BRSTN2000872, BRSTN2003835, BRSTN2007000,
 BRSTN2010363, BRSTN2012380, BRSTN2015015, BRSTN2016470,
 BRSTN2016678, BRSTN2017110, BRTHA2002376, BRTHA2002493,
 BRTHA2002608, BRTHA2002808, BRTHA2003110, BRTHA2003461,
 BRTHA2005579, BRTHA2006075, BRTHA2008527, BRTHA2011194,
 30 BRTHA2012980, BRTHA2013460, BRTHA2015696, BRTHA2015878,
 BRTHA2016215, BRTHA2016496, BRTHA2017985, BRTHA2018344,
 BRTHA2018624, BRTHA3000633, BRTHA3002427, BRTHA3003474,
 BRTHA3007148, BRTHA3008386, BRTHA3008778, BRTHA3009037,
 BRTHA3009090, BRTHA3009291, BRTHA3016845, BRTHA3017047,
 35 BRTHA3017589, BRTHA3017848, BRTHA3018656, CERVX2002006,
 COLON2000568, COLON2002443, COLON2004478, COLON2005126,

COLON2005772, CTONG1000302, CTONG1000341, CTONG1000488,
 CTONG1000508, CTONG2000042, CTONG2004062, CTONG2008233,
 CTONG2009423, CTONG2009531, CTONG2010803, CTONG2013178,
 CTONG2019652, CTONG2019788, CTONG2020127, CTONG2020522,
 5 CTONG2020638, CTONG2022601, CTONG2023512, CTONG2024749,
 CTONG2025496, CTONG2026920, CTONG2027327, CTONG2028124,
 CTONG2028687, CTONG3000707, CTONG3001370, CTONG3001560,
 CTONG3002020, CTONG3003179, CTONG3003483, CTONG3003737,
 CTONG3005648, CTONG3008252, CTONG3008258, CTONG3008496,
 10 CTONG3008566, CTONG3008951, CTONG3009227, CTONG3009239,
 CTONG3009328, CTONG3009385, D3OST2002182, D3OST2002648,
 DFNES1000107, DFNES2000146, DFNES2005266, DFNES2010502,
 FCBBF2001183, FCBBF2007510, FCBBF3003435, FCBBF3004502,
 FCBBF3009888, FCBBF3012170, FCBBF3021576, FCBBF3023895,
 15 FCBBF4000076, FEBRA1000030, FEBRA2007708, FEBRA2008311,
 FEBRA2008468, FEBRA2020668, FEBRA2025427, FEBRA2027082,
 HCASM2002502, HCASM2003212, HCASM2007047, HCHON2000212,
 HCHON2001084, HCHON2001548, HCHON2001577, HCHON2001712,
 HCHON2002676, HCHON2004007, HCHON2004776, HCHON2005921,
 20 HEART1000010, HEART2001680, HEART2010492, HLUNG2000014,
 HLUNG2003872, HLUNG2010464, HLUNG2015617, HLUNG2017350,
 HSYRA2005496, HSYRA2006873, HSYRA2008714, HSYRA2009102,
 IMR322002110, IMR322006222, KIDNE1000064, KIDNE2000832,
 KIDNE2000846, KIDNE2006580, KIDNE2010264, KIDNE2011635,
 25 KIDNE2012945, KIDNE2013095, LIVER2007415, LYMPB2000083,
 MESAN2001979, MESAN2012054, MESTC1000042, NHNPC2000606,
 NHNPC2001223, NOVAR2000136, NOVAR2001108, NT2RI2008724,
 NT2RI2009855, NT2RI2025909, NT2RI3001263, NT2RI3003095,
 NT2RI3003382, NT2RI3003409, NT2RI3005403, NT2RI3006171,
 30 NT2RI3006673, NT2RI3007065, NT2RI3007543, NT2RI3007978,
 NT2RP7000359, NT2RP7000466, NT2RP7004027, NT2RP7009030,
 NT2RP7014005, NTONG2000413, OCBBF2006151, OCBBF2006567,
 OCBBF2006764, OCBBF2007114, OCBBF2007428, OCBBF2009926,
 OCBBF2010140, OCBBF2017516, OCBBF2021788, OCBBF2024719,
 35 OCBBF2025458, OCBBF2030517, OCBBF2030574, OCBBF2031167,
 OCBBF2032590, OCBBF2033869, OCBBF2037598, OCBBF2038317,

OCBBF3000483, OCBBF3003320, OCBBF3004314, PEBLM2000170,
PEBLM2000338, PEBLM2002594, PEBLM2006113, PEBLM2007834,
PERIC2001227, PERIC2003452, PERIC2003720, PERIC2004909,
PERIC2005347, PERIC2006035, PERIC2007914, PLACE5000171,
5 PLACE5000260, PLACE5000282, PLACE6012574, PLACE6019932,
PLACE6020031, PLACE7000514, PLACE7001022, PROST1000184,
PROST1000528, PROST1000559, PROST2003428, PROST2018090,
PROST2018902, PROST2018922, PUAEN2002489, PUAEN2005588,
PUAEN2006701, PUAEN2009174, PUAEN2009795, RECTM2000433,
10 RECTM2001347, SKMUS2000757, SKNMC2002402, SMINT2002743,
SMINT2009902, SMINT2011888, SMINT2015787, SPLEN2001599,
SPLEN2009548, SPLEN2012889, SPLEN2015158, SPLEN2015267,
SPLEN2015679, SPLEN2021701, SPLEN2023733, SPLEN2023791,
SPLEN2025491, SPLEN2029522, SPLEN2029683, SPLEN2030335,
15 SPLEN2030479, SPLEN2031125, SPLEN2031424, SPLEN2031547,
SPLEN2031724, SPLEN2031780, SPLEN2032813, SPLEN2033098,
SPLEN2034021, SPLEN2034781, SPLEN2036326, SPLEN2036821,
SPLEN2037722, SPLEN2038180, SPLEN2038345, SPLEN2038407,
SPLEN2040222, SPLEN2041304, SPLEN2042598, STOMA2004294,
20 STOMA2008546, SYNOV2005817, SYNOV2012326, SYNOV2014400,
SYNOV2016124, SYNOV4002883, SYNOV4003322, SYNOV4004184,
SYNOV4004741, SYNOV4004914, SYNOV4006256, SYNOV4007430,
SYNOV4007553, SYNOV4007671, SYNOV4008336, SYNOV4008440,
TBAES2001258, TCERX2000613, TESOP2001345, TESOP2001865,
25 TESOP2002273, TESOP2002539, TESOP2004114, TESOP2005485,
TESOP2005579, TESOP2006041, TESOP2007052, TESOP2007262,
TESOP2007636, TESTI1000257, TESTI1000348, TESTI2000644,
TESTI2002036, TESTI2002618, TESTI2002928, TESTI2003347,
TESTI2005610, TESTI2006648, TESTI2013382, TESTI2024567,
30 TESTI2027019, TESTI2034767, TESTI2034953, TESTI2034997,
TESTI2035997, TESTI2036684, TESTI2042450, TESTI2047071,
TESTI2048898, TESTI2051767, TESTI2052822, TESTI4000215,
TESTI4000724, TESTI4001100, TESTI4001527, TESTI4001561,
TESTI4001665, TESTI4001923, TESTI4002552, TESTI4002754,
35 TESTI4005805, TESTI4005961, TESTI4006053, TESTI4006137,
TESTI4007064, TESTI4007163, TESTI4007239, TESTI4007382,

TESTI4008050, TESTI4008401, TESTI4008429, TESTI4008797,
TESTI4009608, TESTI4012448, TESTI4013369, TESTI4013667,
TESTI4013830, TESTI4014392, TESTI4016238, TESTI4017575,
TESTI4017901, TESTI4018835, TESTI4019566, TESTI4020092,
5 TESTI4020102, TESTI4021478, TESTI4023722, TESTI4024420,
TESTI4024874, TESTI4024890, TESTI4025797, TESTI4026456,
TESTI4026785, TESTI4027821, TESTI4028062, TESTI4028429,
TESTI4028823, TESTI4028880, TESTI4029836, TESTI4030159,
TESTI4030505, TESTI4034172, TESTI4035065, TESTI4035649,
10 TESTI4037244, TESTI4041053, TESTI4042711, TESTI4046487,
TESTI4046819, THYMU2001053, THYMU2003632, THYMU2003760,
THYMU2005003, THYMU2005303, THYMU2005321, THYMU2007658,
THYMU2008725, THYMU2009425, THYMU2011548, THYMU2013386,
THYMU2014353, THYMU2019210, THYMU2023711, THYMU2027497,
15 THYMU2027695, THYMU2029676, THYMU2030068, THYMU2032035,
THYMU2032437, THYMU2032655, THYMU2033079, THYMU2033308,
THYMU2033816, THYMU2034314, THYMU2035064, THYMU2036085,
THYMU2036459, THYMU2037226, THYMU2037348, THYMU2038772,
THYMU2038797, THYMU2039780, THYMU2040412, THYMU2041015,
20 THYMU3000028, THYMU3000036, THYMU3004835, THYMU3005696,
THYMU3006168, THYMU3006811, THYMU3007137, THYMU3007368,
THYMU3007845, TKIDN2002424, TKIDN2002632, TKIDN2006525,
TKIDN2009092, TKIDN2009889, TKIDN2014771, TKIDN2019116,
TLIVE2000023, TLIVE2001828, TLIVE2001927, TLIVE2002336,
25 TLIVE2002690, TLIVE2003381, TLIVE2004110, TLIVE2008229,
TOVAR2001281, TRACH1000205, TRACH2001549, TRACH2001684,
TRACH2006387, TRACH2007059, TRACH2007834, TRACH2008300,
TRACH2020525, TRACH2021964, TRACH2022553, TRACH2025535,
TRACH2025911, TRACH3000014, TRACH3002064, TRACH3002168,
30 TRACH3002650, TRACH3004786, TRACH3005294, TRACH3005549,
TRACH3006149, TRACH3007391, TRACH3008629, TRACH3035199,
TRACH3035526, TRACH3036193, TSTOM2000442, TSTOM2000553,
TUTER2000916, UTERU1000339, UTERU2004688, UTERU2004929,
UTERU2006137, UTERU2006568, UTERU2007444, UTERU2017762,
35 UTERU2020718, UTERU2022020, UTERU2025025, UTERU2025645,
UTERU2025891, UTERU2026090, UTERU2026203, UTERU2027591,

UTERU2029953, UTERU2031851, UTERU2035323, UTERU2035469,
 UTERU3000645, UTERU3000899, UTERU3001240, UTERU3001571,
 UTERU3001585, UTERU3001652, UTERU3001988, UTERU3002209,
 UTERU3002383, UTERU3002786, UTERU3003116, UTERU3003776,
 5 UTERU3006308, UTERU3008671, UTERU3009690, UTERU3009979,
 UTERU3011063, UTERU3015500, UTERU3016789

The following 82 clones are also predicted to belong to the category of secretory protein and/or membrane protein.

BLADE2006830, BRACE2002589, BRACE2009318, BRACE2011677,
 10 BRACE2029396, BRACE2039823, BRACE2039832, BRAMY2019111,
 BRAMY2038516, BRAMY2045471, BRAWH2006395, BRAWH2008993,
 BRCOC2019841, BRHIP2003272, BRHIP2005271, BRHIP2005724,
 BRHIP2008389, BRHIP2026877, BRHIP3000240, BRTHA2011321,
 BRTHA2018011, BRTHA2018443, BRTHA3008826, CTONG2015633,
 15 CTONG2016942, CTONG2019822, FEBRA2000790, FEBRA2006519,
 FEBRA2028256, FEBRA2028516, HCASM2002754, HEART2009680,
 HLUNG2013350, HLUNG2015418, IMR322013396, LIVER2000247,
 NT2RI2009583, NT2RI2027157, NT2RP7008435, OCBBF2003327,
 OCBBF2030116, PLACE7000502, PROST2000452, PROST2019487,
 20 SPLEN2016932, SPLEN2037319, SYNOV2001660, SYNOV2013637,
 SYNOV4003981, SYNOV4005889, TBAES2000932, TESTI2015626,
 TESTI2029252, TESTI2032643, TESTI2039060, TESTI2050780,
 TESTI4000137, TESTI4000155, TESTI4006473, TESTI4011070,
 TESTI4013365, TESTI4013894, TESTI4014801, TESTI4032090,
 25 TESTI4041086, THYMU2004284, THYMU2030462, THYMU2033401,
 THYMU2034279, THYMU2035710, THYMU2040925, TKIDN2008778,
 TKIDN2012771, TKIDN2018926, TLIVE2007607, TRACH2019672,
 TRACH3000420, TRACH3003683, UTERU2011220, UTERU2021820,
 UTERU2032279, UTERU3015069

30 The clones predicted to belong to the category of glycoprotein-related protein are the following 115 clones.

ADIPS2000088, BNGH42003570, BRACE2005457, BRACE2014306,
 BRACE2029112, BRACE2039249, BRACE2046295, BRACE3001391,
 BRACE3011271, BRACE3016884, BRAMY2005052, BRAMY3004919,
 35 BRAMY4000095, BRAMY4000277, BRAWH1000127, BRAWH2007658,
 BRAWH2014414, BRAWH2016221, BRAWH3002600, BRCAN2006063,

BRSSN2004496, BRTHA2008527, BRTHA2012980, BRTHA2016496,
 BRTHA3002427, BRTHA3017848, COLON2000568, COLON2004478,
 COLON2005772, CTONG1000341, CTONG2000042, CTONG2009423,
 CTONG2023512, CTONG2024749, CTONG2025496, CTONG3001370,
 5 CTONG3003737, D3OST2002648, DFNES2000146, DFNES2005266,
 FCBBF3012170, FEBRA1000030, FEBRA2008311, FEBRA2008468,
 HCHON2001712, HEART1000010, HEART2001680, HSYRA2005496,
 KIDNE2012945, LYMPB2000083, NESOP2001433, NOVAR2000136,
 NOVAR2001108, NT2RI3006171, NT2RI3006673, NT2RP7004027,
 10 OCBBF2033869, PLACE5000171, PROST1000184, PUAEN2009795,
 SMINT2010076, SMINT2011888, SMINT2015787, SPLEN2015267,
 SPLEN2021701, SPLEN2030335, SYNOV2005817, SYNOV2014400,
 SYNOV3000231, SYNOV3000302, TESOP2004114, TESOP2005485,
 TESTI1000257, TESTI2002036, TESTI2002618, TESTI2024567,
 15 TESTI2027019, TESTI4001527, TESTI4007163, TESTI4012406,
 TESTI4013830, TESTI4020092, TESTI4023546, TESTI4028823,
 TESTI4028880, TESTI4046819, THYMU2005303, THYMU2008725,
 THYMU2009425, THYMU2011548, THYMU2019210, THYMU2023711,
 THYMU2027497, THYMU2027695, THYMU2038797, THYMU3004835,
 20 TLIVE2003381, TRACH2006387, TRACH2007059, TRACH2022425,
 TRACH2022553, TRACH2022649, TRACH3002168, TRACH3008629,
 TRACH3035526, TSTOM2000442, UTERU2008347, UTERU2025025,
 UTERU2035469, UTERU3000899, UTERU3001240, UTERU3003116,
 UTERU3006308, UTERU3008671, UTERU3015500.

25 The following 15 clones are also predicted to belong to the
 category of glycoprotein-related protein.

BRAMY2019111, BRHIP2026877, BRTHA2018011, FEBRA2028256,
 HEART2009680, HLUNG2015418, NT2RI2009583, NT2RP7008435,
 OCBBF2003327, TESTI2032643, TESTI2039060, TESTI4011070,
 30 THYMU2035710, TRACH3003683, UTERU2032279

 The clones predicted to belong to the category of signal
 transduction-related protein are the following 80 clones.

BNGH42007788, BRACE2008594, BRACE2030341, BRACE2044286,
 BRACE3002508, BRACE3003595, BRACE3006872, BRACE3011421,
 35 BRACE3015027, BRACE3027326, BRAMY2036567, BRAMY2038904,
 BRAMY3000213, BRAMY3002803, BRAMY3005091, BRAMY3005932,

BRAMY4000095, BRAMY4000229, BRCAN2003703, BRCAN2014602,
 BRCAN2016619, BRCAN2028355, BRHIP2000819, BRHIP3025161,
 BRSSN2004719, BRSTN2008418, BRTHA2002281, BRTHA2015406,
 CTONG2006798, CTONG3000084, CTONG3002412, D3OST3000169,
 5 FCBBF3007540, HCASM2001301, HCHON2006250, HCHON2008112,
 HLUNG2002465, KIDNE2001847, NESOP2001694, NT2NE2003252,
 NT2RI2005166, NT2RI3007757, NT2RI3008652, NT2RP7005529,
 NT2RP7009147, NT2RP7013795, NT2RP8000483, OCBBF2004826,
 OCBBF2007028, OCBBF2022351, OCBBF2030354, OCBBF2037547,
 10 PLACE6019385, PLACE7008431, PROST2016462, PROST2018511,
 PUAEN2009852, SPLEN2036932, SYNOV2021320, TESOP2000801,
 TESOP2001166, TESTI2005739, TESTI2026505, TESTI2050137,
 TESTI4011745, TESTI4012505, TESTI4018208, TESTI4028059,
 THYMU2007060, THYMU2031046, THYMU2032014, THYMU2039305,
 15 THYMU3008436, TLIVE2001327, TRACH2009310, TRACH2025535,
 TRACH3009455, UTERU2025025, UTERU2036089, UTERU3016789

The following 31 clones are also predicted to belong to the category of signal transduction-related protein.

BRAMY3004800, BRAWH3009017, BRHIP2026877, BRTHA2013610,
 20 BRTHA2017972, BRTHA3003000, CTONG2020974, FEBRA2001990,
 FEBRA2008692, NT2RI2005772, NT2RI3007443, NTONG2008093,
 OCBBF2005433, OCBBF2024284, OCBBF2034637, OCBBF3002654,
 SPLEN2036702, SPLEN2039379, TESOP2000390, TESTI2025924,
 TESTI2049956, TESTI4000319, TESTI4019657, TESTI4021482,
 25 TESTI4024387, TESTI4025268, TESTI4031745, THYMU2004139,
 THYMU2031249, UTERU2008040, UTERU3000738

The clones predicted to belong to the category of transcription-related protein are the following 38 clones.

BRACE2030326, BRACE3001002, BRACE3045033, BRHIP3025161,
 30 BRSSN2014299, BRTHA2014792, BRTHA3001721, CTONG2025516,
 FEBRA2007544, FEBRA2007801, HEART1000074, IMR322000127,
 IMR322000917, NT2NE2006531, NT2RI2006686, NT2RI3009158,
 OCBBF2020838, OCBBF2036743, PEBLM2002887, SKNMC2007504,
 SPLEN2012624, TESTI2026505, TESTI2040018, TESTI2044796,
 35 TESTI2050987, TESTI4001176, TESTI4007810, TESTI4014175,
 TESTI4017543, TESTI4026524, TESTI4036909, THYMU2006420,

THYMU2037233, THYMU3004866, TRACH3000558, TUTER2000425,
UTERU2035328, UTERU3009490

The following 64 clones are also predicted to belong to the category of transcription-related protein.

5 BRACE2003609, BRACE3001058, BRACE3001113, BRALZ2017844,
BRAMY2035070, BRAMY2035449, BRAMY2035718, BRAMY2039341,
BRAWH2006207, BRHIP2017553, CERVX2002013, CTONG1000113,
CTONG2003348, CTONG2008721, CTONG2020378, CTONG2020411,
CTONG2028758, CTONG3004726, DFNES2011192, FCBBF3010361,
10 FEBRA2014122, FEBRA2027609, HCASM2003018, HCHON2004858,
HSYRA2005628, MESAN2005303, MESAN2014412, MESAN2015501,
NT2RI2008952, NT2RI2018448, NT2RI3001132, OCBBF2008144,
OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2032274,
OCBBF3000167, SPLEN2004611, SPLEN2016135, SPLEN2016781,
15 SYNOV2021953, SYNOV4002744, TESOP2001796, TESOP2005199,
TESOP2006398, TESOP2006865, TESTI2034251, TESTI4000183,
TESTI4000214, TESTI4008302, TESTI4015442, TESTI4025494,
TESTI4025547, TESTI4028938, TESTI4032112, THYMU2006001,
THYMU2028739, TRACH2007483, TRACH3000134, TRACH3003832,
20 TUTER2000057, UTERU2033577, UTERU3001053, TESTI4038779

The clones predicted to belong to the category of disease-related protein are the following 342 clones.

3NB692002806, ADIPS2000088, BLADE2005036, BRACE2005457,
BRACE2008594, BRACE2014306, BRACE2016981, BRACE2018762,
25 BRACE2035381, BRACE2038551, BRACE2039249, BRACE2045300,
BRACE3000840, BRACE3001002, BRACE3001391, BRACE3001754,
BRACE3002508, BRACE3003595, BRACE3004058, BRACE3004150,
BRACE3004772, BRACE3008137, BRACE3008384, BRACE3009708,
BRACE3010397, BRACE3011271, BRACE3011421, BRACE3014807,
30 BRACE3015027, BRACE3015521, BRACE3018963, BRACE3020594,
BRACE3027326, BRALZ2017359, BRAMY2005052, BRAMY2038904,
BRAMY2047751, BRAMY3000213, BRAMY3005091, BRAMY3007609,
BRAMY4000095, BRAMY4000229, BRAMY4000277, BRAWH2001395,
BRAWH2002560, BRAWH2010000, BRAWH2010536, BRAWH2014414,
35 BRAWH3000100, BRAWH3000491, BRAWH3001326, BRAWH3002574,
BRAWH3005912, BRAWH3008341, BRCAN2002562, BRCAN2002856,

BRCAN2002948, BRCAN2003746, BRCAN2006063, BRCAN2009203,
 BRCAN2014602, BRCAN2016619, BRCAN2017442, BRCAN2024451,
 BRCOC2001505, BRCOC2003213, BRHIP2000819, BRHIP2001805,
 BRHIP2009414, BRHIP2024165, BRHIP2026288, BRHIP3000339,
 5 BRHIP3008405, BRHIP3009448, BRHIP3027137, BRHIP3027854,
 BRSSN2000684, BRSSN2004719, BRSSN2014424, BRSTN2001613,
 BRSTN2004987, BRSTN2008418, BRTHA2002608, BRTHA2003110,
 BRTHA2007122, BRTHA2007603, BRTHA2008527, BRTHA2012980,
 BRTHA2014792, BRTHA3001721, BRTHA3002427, BRTHA3003074,
 10 BRTHA3003449, BRTHA3008778, BRTHA3009037, BRTHA3009090,
 BRTHA3015815, BRTHA3016917, BRTHA3017848, COLON2000568,
 COLON2002520, CTONG1000341, CTONG2000042, CTONG2009423,
 CTONG2010803, CTONG2017500, CTONG2023021, CTONG2025496,
 CTONG2025516, CTONG3000084, CTONG3002412, CTONG3008639,
 15 D3OST2002182, D3OST2002648, DFNES2001108, FCBBF3009888,
 FEBRA2007708, FEBRA2008468, FEBRA2024744, HCASM2001301,
 HCASM2007737, HCHON2001712, HCHON2002676, HCHON2003532,
 HCHON2004007, HCHON2004531, HCHON2008112, HCHON2008444,
 HEART1000010, HEART1000139, HEART2001680, HEART2010495,
 20 HLUNG2002465, HSYRA2005496, IMR322000127, IMR322001380,
 IMR322006495, KIDNE2001847, KIDNE2012945, NESOP2001694,
 NOVAR2001108, NT2NE2003252, NT2NE2006531, NT2NE2006909,
 NT2RI2006686, NT2RI2025909, NT2RI3001515, NT2RI3006171,
 NT2RI3006340, NT2RI3006673, NT2RI3007757, NT2RI3008652,
 25 NT2RP7000359, NT2RP7005118, NT2RP7005529, NT2RP7010599,
 NTONG2000413, OCBBF2006058, OCBBF2020801, OCBBF2021788,
 OCBBF2031167, OCBBF2033869, OCBBF2036743, OCBBF2037068,
 OCBBF2037340, OCBBF3003320, PEBLM2000170, PEBLM2002887,
 PERIC2003720, PERIC2007914, PERIC2008385, PERIC2009086,
 30 PLACE5000282, PLACE6019385, PROST1000184, PROST2003428,
 PROST2016462, PROST2017367, PROST2018090, PROST2018511,
 PUAEN2002489, PUAEN2009795, SKNMC2007504, SMINT2010076,
 SPLEN2002467, SPLEN2006122, SPLEN2011422, SPLEN2012624,
 SPLEN2021701, SPLEN2031547, SPLEN2033098, SPLEN2036326,
 35 SPLEN2036821, SPLEN2036932, SYNOV2005817, SYNOV2012326,
 SYNOV2014400, SYNOV2021320, SYNOV3000231, SYNOV3000302,

SYNOV4002883, SYNOV4004741, SYNOV4007360, SYNOV4007521,
 SYNOV4007553, SYNOV4007671, SYNOV4008440, TBAES2001229,
 TBAES2001258, TESOP2004114, TESOP2005485, TESOP2009121,
 TESTI1000257, TESTI1000319, TESTI2000644, TESTI2002618,
 5 TESTI2005610, TESTI2024567, TESTI2026505, TESTI2050987,
 TESTI2051867, TESTI2053399, TESTI2053621, TESTI4000014,
 TESTI4000079, TESTI4000288, TESTI4000349, TESTI4000724,
 TESTI4001148, TESTI4001176, TESTI4001527, TESTI4001561,
 TESTI4002491, TESTI4006420, TESTI4006819, TESTI4007163,
 10 TESTI4007778, TESTI4007810, TESTI4008050, TESTI4008429,
 TESTI4009160, TESTI4009457, TESTI4009881, TESTI4010851,
 TESTI4011745, TESTI4011956, TESTI4012406, TESTI4012448,
 TESTI4012505, TESTI4012679, TESTI4013369, TESTI4013924,
 TESTI4014175, TESTI4016110, TESTI4016822, TESTI4016925,
 15 TESTI4017901, TESTI4018835, TESTI4018881, TESTI4018886,
 TESTI4020092, TESTI4021478, TESTI4022873, TESTI4023546,
 TESTI4026524, TESTI4027557, TESTI4028059, TESTI4028429,
 TESTI4028880, TESTI4030069, TESTI4034632, TESTI4034912,
 TESTI4035063, TESTI4035498, TESTI4036909, TESTI4037156,
 20 TESTI4040363, THYMU1000496, THYMU2005303, THYMU2008725,
 THYMU2019210, THYMU2027497, THYMU2027695, THYMU2027734,
 THYMU2031046, THYMU2033104, THYMU2035319, THYMU2037233,
 THYMU2041015, THYMU3001083, THYMU3001234, THYMU3001379,
 THYMU3003309, THYMU3004835, THYMU3006118, THYMU3007137,
 25 THYMU3008436, TKIDN2000701, TKIDN2006852, TLIVE2001327,
 TRACH2001549, TRACH2007059, TRACH2022425, TRACH2022649,
 TRACH3000558, TRACH3002168, TRACH3004721, TRACH3004786,
 TRACH3005549, TRACH3007479, TRACH3008629, TRACH3009455,
 TRACH3035526, TSTOM2000442, TUTER2000904, UTERU1000337,
 30 UTERU2005621, UTERU2007724, UTERU2017762, UTERU2019491,
 UTERU2019706, UTERU2025025, UTERU2026090, UTERU2027591,
 UTERU2035328, UTERU3000645, UTERU3000828, UTERU3000899,
 UTERU3001240, UTERU3001572, UTERU3001585, UTERU3001652,
 UTERU3003116, UTERU3003135, UTERU3005907, UTERU3007640,
 35 UTERU3008671, UTERU3009490, UTERU3009690, UTERU3009979,
 UTERU3015500, UTERU3016789

The following 84 clones are also predicted to belong to the category of disease-related protein.

BRACE3001113, BRACE3010076, BRAMY2039341, BRAMY3004800,
 BRAWH3009017, BRCAN2002473, BRCAN2002854, BRCAN2003070,
 5 BRHIP2005271, BRHIP2017553, BRHIP2026877, BRHIP3000240,
 BRHIP3008314, BRHIP3026052, BRSTN2013354, BRTHA2016318,
 BRTHA2017972, BRTHA3003000, CERVX2002013, CTONG1000113,
 CTONG2008721, CTONG2020411, CTONG3004550, FCBBF1000509,
 FEBRA2008692, HCASM2008536, HCHON2004858, HEART2009680,
 10 HLUNG2015548, HSYRA2005628, IMR322008651, IMR322013396,
 MESAN2001770, NT2RI2009583, NT2RI3007443, OCBBF2003327,
 OCBBF2009583, OCBBF2011669, OCBBF2024284, OCBBF2032274,
 OCBBF3000167, OCBBF3002654, PLACE7000502, PROST2000452,
 PROST2009320, SPLEN2004611, STOMA2003158, SYNOV1000256,
 15 SYNOV4002744, SYNOV4003981, TBAES2000932, TESOP2000390,
 TESOP2001796, TESOP2005199, TESTI2015626, TESTI2025924,
 TESTI2026647, TESTI2039060, TESTI4000183, TESTI4006473,
 TESTI4011070, TESTI4017714, TESTI4019657, TESTI4021482,
 TESTI4024387, TESTI4025494, TESTI4025547, TESTI4028938,
 20 TESTI4031745, TESTI4032112, THYMU2004284, THYMU2028739,
 THYMU2031139, THYMU2031249, THYMU2035710, THYMU3000269,
 TLIVE2001684, TLIVE2002046, TRACH2024408, TRACH3003683,
 UTERU2021820, UTERU2032279, UTERU2033577, UTERU3000738

In particular, hit data of the following 338 clones for
 25 Swiss-Prot, or GenBank, UniGene, nr or RefSeq corresponded to
 genes or proteins which had been deposited in the Online
 Mendelian Inheritance in Man (OMIM), which is the human gene and
 disease database (the OMIM Number is shown in the parenthesis
 after the Clone Name).

30 3NB692002806 (261630), ADIPS2000088 (147120), BLADE2005036
 (114850), BRACE2005457 (274600;603545;600791), BRACE2008594
 (601959), BRACE2014306 (193002), BRACE2016981 (602701),
 BRACE2018762 (604800), BRACE2035381 (606088), BRACE2038551
 (601961),
 35 BRACE2039249 (602273), BRACE2045300 (601442), BRACE3000840
 (600355), BRACE3001002 (300236), BRACE3001391 (601313;173900),

BRACE3001754 (185641), BRACE3002508 (606417), BRACE3003595
 (602941), BRACE3004058 (250800), BRACE3004150 (601035),
 BRACE3004772 (603143), BRACE3008137 (602187), BRACE3008384
 (603264), BRACE3009708 (182340), BRACE3010397 (602187),
 5 BRACE3011271 (602187), BRACE3011421 (602187), BRACE3014807
 (605784), BRACE3015027 (602187), BRACE3015521 (605888),
 BRACE3018963 (605744), BRACE3020594 (400023), BRACE3027326
 (602187), BRALZ2017359 (604331), BRAMY2005052 (602621),
 BRAMY2038904 (605671), BRAMY2047751 (602512), BRAMY3000213
 10 (605448), BRAMY3005091 (600286), BRAMY3007609 (300315),
 BRAMY4000095 (602187), BRAMY4000229 (602159), BRAMY4000277
 (602187), BRAWH2001395 (159430), BRAWH2002560 (602865),
 BRAWH2010000 (602581), BRAWH2010536 (604010), BRAWH2014414
 (603006), BRAWH3000100 (601403), BRAWH3000491 (602187),
 15 BRAWH3001326 (602187), BRAWH3002574 (602187), BRAWH3005912
 (602187), BRAWH3008341 (602187), BRCAN2002562 (602187),
 BRCAN2002856 (602712), BRCAN2002948 (603534), BRCAN2003746
 (311870), BRCAN2006063 (603196;601369), BRCAN2009203 (603143),
 BRCAN2014602 (601441), BRCAN2016619 (602187), BRCAN2017442
 20 (604455), BRCAN2024451 (602513), BRCOC2001505 (159430),
 BRCOC2003213 (602187), BRHIP2000819 (605000), BRHIP2001805
 (603219), BRHIP2009414 (602187), BRHIP2024165 (604402),
 BRHIP2026288 (602187), BRHIP3000339 (159430), BRHIP3008405
 (602187), BRHIP3009448 (602187), BRHIP3027137 (600249),
 25 BRHIP3027854 (601060), BRSSN2000684 (603505), BRSSN2004719
 (600560), BRSSN2014424 (606105), BRSTN2001613 (164020),
 BRSTN2004987 (604733), BRSTN2008418 (602187), BRTHA2002608
 (600463), BRTHA2003110 (602187), BRTHA2007122 (106410),
 BRTHA2007603 (605846), BRTHA2008527 (152790;176410),
 30 BRTHA2012980 (300119), BRTHA2014792 (601674), BRTHA3001721
 (604902),
 BRTHA3002427 (602187), BRTHA3003074 (605367), BRTHA3003449
 (160745), BRTHA3008778 (602187), BRTHA3009037 (602187),
 BRTHA3009090 (603197), BRTHA3015815 (600902), BRTHA3016917
 35 (604137), BRTHA3017848 (603377;212140), COLON2000568 (147000),
 COLON2002520 (602187), CTONG1000341 (188040), CTONG2000042

(103950), CTONG2009423 (182137), CTONG2010803 (602189),
 CTONG2023021 (602498), CTONG2025496 (103950), CTONG2025516
 (601679), CTONG3000084 (600888), CTONG3002412 (601403),
 CTONG3008639 (601797), D3OST2002182 (603590), D3OST2002648
 5 (603071), DFNES2001108 (603560), FCBBF3009888 (602470),
 FEBRA2007708 (126650;214700), FEBRA2008468 (278000),
 HCASM2001301 (602399), HCASM2007737 (601504), HCHON2001712
 (109190),
 HCHON2002676 (252800), HCHON2003532 (172490), HCHON2004007
 10 (605866), HCHON2004531 (602187), HCHON2008112 (605837),
 HCHON2008444 (602187), HEART1000010 (602187), HEART1000139
 (191045;115195), HEART2001680 (146900), HEART2010495 (157132),
 HLUNG2002465 (605216), HSYRA2005496 (131195;187300),
 IMR322000127 (604077), IMR322001380 (605652), IMR322006495
 15 (605607), KIDNE2012945 (600270), NOVAR2001108 (147120),
 NT2NE2003252 (602913), NT2NE2006531 (602277), NT2NE2006909
 (602187),
 NT2RI2006686 (602700), NT2RI2025909 (212138), NT2RI3001515
 (300362), NT2RI3006171 (114890), NT2RI3006340 (602187),
 20 NT2RI3006673 (602187), NT2RI3007757 (605396), NT2RI3008652
 (602654), NT2RP7000359 (603271), NT2RP7005118 (603379),
 NT2RP7005529 (600888), NT2RP7010599 (603684), NTONG2000413
 (602262), OCBBF2006058 (604773), OCBBF2020801 (602187),
 OCBBF2021788 (602597), OCBBF2031167 (603709), OCBBF2033869
 25 (600270), OCBBF2036743 (604075), OCBBF2037068 (602187),
 OCBBF2037340 (602187), OCBBF3003320 (605868), PEBLM2000170
 (602187), PEBLM2002887 (602187), PERIC2003720 (600381),
 PERIC2007914 (400009), PERIC2008385 (604455), PERIC2009086
 (600134;605158), PLACE5000282 (130160), PLACE6019385 (602448),
 30 PROST1000184 (192321), PROST2003428 (602187), PROST2016462
 (602187), PROST2017367 (600585), PROST2018090 (312610),
 PROST2018511 (602187), PUAEN2002489 (604658), PUAEN2009795
 (601456), SKNMC2007504 (602187), SMINT2010076 (146900),
 SPLEN2002467 (605652), SPLEN2006122 (604739), SPLEN2011422
 35 (114213), SPLEN2012624 (602187), SPLEN2021701 (142800),
 SPLEN2031547 (602187), SPLEN2033098 (602746), SPLEN2036326

(602101), SPLEN2036821 (212138), SPLEN2036932 (605577),
 SYNOV2005817 (123889), SYNOV2012326 (604336), SYNOV2014400
 (135820), SYNOV2021320 (602104), SYNOV3000231 (147100),
 SYNOV3000302 (147100), SYNOV4002883 (602187), SYNOV4004741
 5 (602187), SYNOV4007360 (602187), SYNOV4007521 (605830),
 SYNOV4007553 (603028), SYNOV4007671 (602187), SYNOV4008440
 (602187), TBAES2001229 (602187), TBAES2001258 (142440),
 TESOP2004114 (601865), TESOP2005485 (147170), TESOP2009121
 (117143), TESTI1000257 (138170), TESTI1000319 (602187),
 10 TESTI2000644 (601392), TESTI2002618 (601533), TESTI2005610
 (601040), TESTI2024567 (601116), TESTI2026505 (305400),
 TESTI2050987 (605968), TESTI2051867 (180479), TESTI2053399
 (605819), TESTI2053621 (600364;602093), TESTI4000014 (602187),
 TESTI4000079 (603560), TESTI4000288 (602187), TESTI4000349
 15 (604506), TESTI4000724 (603878), TESTI4001148 (602187),
 TESTI4001176 (601430), TESTI4001527 (602187), TESTI4001561
 (602187), TESTI4002491 (602187), TESTI4006420 (605612),
 TESTI4006819 (602187), TESTI4007163 (602187), TESTI4007778
 (602187), TESTI4007810 (600940), TESTI4008050 (602187),
 20 TESTI4008429 (602187), TESTI4009160 (602187), TESTI4009457
 (606185), TESTI4009881 (602187), TESTI4010851 (602187),
 TESTI4011745 (602187), TESTI4011956 (602187), TESTI4012406
 (602187), TESTI4012448 (185261), TESTI4012505 (602143),
 TESTI4012679 (601933), TESTI4013369 (602187), TESTI4013924
 25 (602187), TESTI4014175 (602187), TESTI4016110 (602187),
 TESTI4016822 (601792), TESTI4016925 (602187), TESTI4017901
 (104221), TESTI4018835 (602187), TESTI4018881 (605070),
 TESTI4018886 (602187), TESTI4020092 (156225), TESTI4021478
 (605868), TESTI4022873 (602187), TESTI4023546 (602187),
 30 TESTI4026524 (603277), TESTI4027557 (602187), TESTI4028059
 (232800;171850), TESTI4028429 (602187), TESTI4028880 (138170),
 TESTI4030069 (604603), TESTI4034632 (606251), TESTI4034912
 (602187), TESTI4035063 (602187), TESTI4035498 (602187),
 TESTI4036909 (602187), TESTI4037156 (606026), TESTI4040363
 35 (185641), THYMU1000496 (603060), THYMU2005303 (186910),
 THYMU2008725 (176882), THYMU2019210 (142830), THYMU2027497

(182139), THYMU2027695 (147100), THYMU2027734 (145505),
 THYMU2031046 (604207), THYMU2033104 (605349), THYMU2035319
 (604739), THYMU2037233 (605121), THYMU2041015 (602187),
 THYMU3001083 (602187), THYMU3001234 (602187), THYMU3001379
 5 (602187), THYMU3003309 (300359), THYMU3004835 (602187),
 THYMU3006118 (603708), THYMU3007137 (602187), THYMU3008436
 (602187), TKIDN2000701 (600465), TKIDN2006852 (603602),
 TLIVE2001327 (601403), TRACH2001549 (603197), TRACH2007059
 (602187), TRACH2022425 (146900), TRACH2022649 (147100),
 10 TRACH3000558 (600140), TRACH3002168 (155735), TRACH3004721
 (602187), TRACH3004786 (602187), TRACH3005549 (602187),
 TRACH3007479 (602308), TRACH3008629 (600976), TRACH3009455
 (171833), TRACH3035526 (147000), TSTOM2000442 (147100),
 TUTER2000904 (602187), UTERU1000337 (602187), UTERU2005621
 15 (603505), UTERU2007724 (602373), UTERU2017762 (601053),
 UTERU2019491 (603762), UTERU2019706 (600114), UTERU2025025
 (191315;164970;256000), UTERU2026090 (605497), UTERU2027591
 (600150),
 UTERU2035328 (605409), UTERU3000645 (602909), UTERU3000828
 20 (602187), UTERU3000899 (603062), UTERU3001240 (602187),
 UTERU3001572 (602187), UTERU3001585 (602187), UTERU3001652
 (602715), UTERU3003116 (602187), UTERU3003135 (602187),
 UTERU3005907 (190196), UTERU3007640 (603215), UTERU3008671
 (182120), UTERU3009490 (604585), UTERU3009690 (104221),
 25 UTERU3009979 (600441), UTERU3015500 (606667), UTERU3016789
 (602104)

Additionally, hit data of the following 84 clones for
 Swiss-Prot, nr or RefSeq corresponded to genes or proteins which
 had been deposited in the Online Mendelian Inheritance in Man
 30 (OMIM), which is the human gene and disease database (the OMIM
 Number is shown in the parenthesis after the Clone Name).
 BRACE3001113 (603971), BRACE3010076 (142695), BRAMY2039341
 (604077), BRAMY3004800 (602187), BRAWH3009017 (602187),
 BRCAN2002473 (602187), BRCAN2002854 (602895), BRCAN2003070
 35 (605574), BRHIP2005271 (600267), BRHIP2017553 (602187),
 BRHIP2026877 (600341), BRHIP3000240 (601142), BRHIP3008314

(604480), BRHIP3026052 (601645), BRSTN2013354 (602187),
 BRTHA2016318 (605442), BRTHA2017972 (602932), BRTHA3003000
 (605276), CERVX2002013 (602903), CTONG1000113 (602277),
 CTONG2008721 (605317), CTONG2020411 (601930), CTONG3004550
 5 (605611), FCBBF1000509 (601933), FEBRA2008692 (604034),
 HCASM2008536 (194360), HCHON2004858 (602187), HEART2009680
 (601970), HLUNG2015548 (146690), HSYRA2005628 (602187),
 IMR322008651 (179617), IMR322013396 (600053), MESAN2001770
 (600495), NT2RI2009583 (605949), NT2RI3007443 (602448),
 10 OCBBF2003327 (605008), OCBBF2009583 (602277), OCBBF2011669
 (602187), OCBBF2024284 (176981), OCBBF2032274 (603975),
 OCBBF3000167 (194558), OCBBF3002654 (601893), PLACE7000502
 (164951), PROST2000452 (602060), PROST2009320 (605903),
 SPLEN2004611 (602228), STOMA2003158 (602244), SYNOV1000256
 15 (606021), SYNOV4002744 (602187), SYNOV4003981 (604283),
 TBAES2000932 (606212), TESOP2000390 (602187), TESOP2001796
 (602187), TESOP2005199 (194531), TESTI2015626 (601249),
 TESTI2025924 (600863), TESTI2026647 (601235), TESTI2039060
 (154360), TESTI4000183 (601276), TESTI4006473 (602187),
 20 TESTI4011070 (602187), TESTI4017714 (602187), TESTI4019657
 (602052), TESTI4021482 (164730), TESTI4024387 (602187),
 TESTI4025494 (602187), TESTI4025547 (605308), TESTI4028938
 (603899), TESTI4031745 (602448), TESTI4032112 (603246),
 THYMU2004284 (314370), THYMU2028739 (604191), THYMU2031139
 25 (605009), THYMU2031249 (311550), THYMU2035710 (601890),
 THYMU3000269 (600857), TLIVE2001684 (120700), TLIVE2002046
 (125270), TRACH2024408 (106410), TRACH3003683 (150205),
 UTERU2021820 (126141), UTERU2032279 (600942), UTERU2033577
 (603397), UTERU3000738 (602187)

30 The clones predicted to belong to the category of enzyme
 and/or metabolism-related protein are the following 171 clones.
 3NB692002806, ASTRO2002842, BLADE2005036, BRACE2008594,
 BRACE2030341, BRACE2035381, BRACE2038551, BRACE2039249,
 BRACE2041200, BRACE2045772, BRACE3004058, BRACE3009708,
 35 BRACE3011421, BRACE3016884, BRACE3024073, BRACE3025630,
 BRAMY2033267, BRAMY2039872, BRAMY3002803, BRAMY3004919,

BRAMY3005091, BRAMY3005932, BRAMY4000095, BRAWH3002574,
 BRAWH3008341, BRCAN2003703, BRCAN2003746, BRCAN2009432,
 BRCAN2014602, BRCAN2017442, BRCAN2028355, BRCOC2003213,
 BRHIP2024165, BRHIP3008405, BRHIP3027137, BRHIP3027854,
 5 BRSTN2000872, BRSTN2004863, BRSTN2004987, BRSTN2008418,
 BRTHA2002608, BRTHA2009311, BRTHA2015406, BRTHA2016496,
 BRTHA3008778, BRTHA3009090, BRTHA3015815, BRTHA3016917,
 CTONG2004062, CTONG2006798, CTONG2013178, CTONG2028124,
 CTONG3009028, D3OST2002182, DFNES2001108, DFNES2005266,
 10 FCBBF3013307, FCBBF3023895, FEBRA2008468, FEBRA2026984,
 HCASM2001301, HCHON2002676, HCHON2003532, HCHON2004007,
 HEART2006131, HEART2010492, HHDPC1000118, HLUNG2011298,
 HLUNG2013204, HSYRA2008714, KIDNE2001361, KIDNE2006580,
 NT2NE2003252, NT2NE2006909, NT2RI2004618, NT2RI2025909,
 15 NT2RI3006673, NT2RI3007978, NT2RI3008974, NT2RP7000359,
 NT2RP7004027, NT2RP7010599, NT2RP7014005, NTONG2000413,
 NTONG2008672, OCBBF2006005, OCBBF2006058, OCBBF2006151,
 OCBBF2019823, OCBBF2025527, OCBBF2030354, OCBBF2031167,
 OCBBF3003320, PEBLM2005183, PERIC2000889, PERIC2008385,
 20 PLACE6019385, PLACE7008431, PROST2017367, PUAEN2007044,
 PUAEN2009655, PUAEN2009852, SKNMC2006998, SKNMC2007504,
 SMINT1000192, SPLEN2010912, SYNOV2012326, SYNOV4002883,
 TBAES2001258, TESOP2000801, TESOP2004114, TESTI2005610,
 TESTI2005739, TESTI2016046, TESTI4000079, TESTI4000209,
 25 TESTI4000288, TESTI4000349, TESTI4001176, TESTI4001527,
 TESTI4001561, TESTI4002552, TESTI4006148, TESTI4006819,
 TESTI4007810, TESTI4008429, TESTI4010851, TESTI4012406,
 TESTI4012448, TESTI4013369, TESTI4013817, TESTI4014175,
 TESTI4016822, TESTI4018152, TESTI4018835, TESTI4019566,
 30 TESTI4021478, TESTI4022716, TESTI4023546, TESTI4026510,
 TESTI4026524, TESTI4028059, TESTI4029836, TESTI4034632,
 TESTI4036909, TESTI4046819, THYMU2008725, THYMU2027734,
 THYMU2031046, THYMU2031258, THYMU3001234, THYMU3003212,
 THYMU3004157, THYMU3004835, THYMU3006118, THYMU3008436,
 35 TKIDN2006852, TLIVE2002336, TRACH2001549, TRACH2009310,
 TRACH3007479, TRACH3036193, UTERU1000337, UTERU2019491,

UTERU2025025, UTERU2026203, UTERU3000665, UTERU3001240,
UTERU3001585, UTERU3003116, UTERU3005907

The following 59 clones are also predicted to belong to the category of enzyme and/or metabolism-related protein.

5 BRACE2039823, BRACE3010076, BRAMY2038516, BRAWH1000369,
BRCAN2003070, BRHIP2005271, BRHIP2012360, BRHIP2026877,
BRHIP3008314, BRTHA2013610, BRTHA2017364, BRTHA2017972,
BRTHA2018011, BRTHA2018443, BRTHA3003000, CTONG2016942,
FCBBF1000509, FEBRA2008692, HCASM2003099, HLUNG2015548,
10 MESAN2005303, NT2RI3000174, NT2RI3007443, NT2RP7008435,
NTONG2008093, OCBBF2003327, OCBBF2034637, OCBBF3002654,
PROST2000452, SPLEN2039311, SPLEN2039379, STOMA2003158,
TESOP2000390, TESTI2015626, TESTI2025924, TESTI2026647,
TESTI2032643, TESTI2036288, TESTI2039060, TESTI4006473,
15 TESTI4011070, TESTI4014801, TESTI4017714, TESTI4019657,
TESTI4021482, TESTI4031745, THYMU2004139, THYMU2004284,
THYMU2031139, THYMU2031249, THYMU2040925, THYMU3000269,
TLIVE2002046, TLIVE2007607, TRACH2024559, TRACH3003683,
TRACH3007866, UTERU2021820, UTERU3000738

20 The clones predicted to belong to the category of cell division and/or cell proliferation-related protein are the following 42 clones.

BLADE2002782, BRACE2042550, BRACE2043248, BRACE3000840,
BRALZ2017359, BRAMY2038484, BRAMY2046989, BRAWH2010536,
25 BRAWH2014954, BRAWH3000100, BRHIP2000819, BRHIP2001927,
BRHIP2009414, BRSSN2000684, CTONG3002412, CTONG3008258,
CTONG3008639, FCBBF3002163, HCASM2001301, IMR322006495,
NT2RI2006686, OCBBF2021020, OCBBF2037068, OCBBF3004314,
PLACE5000282, PLACE6019385, PLACE7002641, PUAEN2006328,
30 SPLEN2033098, TESOP2009121, TESTI1000545, TESTI2003573,
TESTI2005610, TESTI4007810, TESTI4017901, THYMU2034374,
THYMU2039315, TLIVE2001327, TRACH2025507, UTERU2005621,
UTERU3009690, UTERU3009979

35 The following ten clones are also predicted to belong to the category of cell division and/or cell proliferation-related protein.

BRCAN2003070, BRTHA3003000, NT2RI3007443, PLACE7000502,
 SPLEN2004611, STOMA2003158, SYNOV4003981, TESTI4031745,
 THYMU2004139, THYMU2035078

The clones predicted to belong to the category of
 5 cytoskeleton-related protein are the following 55 clones.

ASTRO1000009, BLADE2004089, BRACE2026836, BRACE2045300,
 BRACE3006872, BRAMY3008466, BRAWH2001395, BRAWH2005315,
 BRAWH3002600, BRCOC2001505, BRHIP2000819, BRHIP3000339,
 BRHIP3008405, BRTHA2007122, BRTHA3003449, COLON2002520,
 10 CORDB2000541, FCBBF3021940, HCHON2001577, HEART1000139,
 HEART2010495, NT2RI3006340, NT2RP7000359, NTONG2005277,
 OCBBF2007068, OCBBF3003592, PERIC2000889, PLACE5000282,
 PROST1000559, SKMUS2006394, SPLEN2011422, SPLEN2015679,
 TESTI2049857, TESTI4000288, TESTI4001148, TESTI4007778,
 15 TESTI4009160, TESTI4009881, TESTI4011956, TESTI4013924,
 TESTI4016925, TESTI4018886, TESTI4022873, TESTI4034912,
 TESTI4035063, TESTI4037727, THYMU1000496, THYMU2035735,
 THYMU3001083, THYMU3001234, TKIDN2000701, UTERU2007724,
 UTERU2008347, UTERU2035745, UTERU3003178

20 The following six clones are also predicted to belong to
 the category of cytoskeleton-related protein.

HLUNG2015418, SPLEN2030847, SPLEN2036702, TESTI4025268,
 TESTI4026207, TRACH2024408

The clones predicted to belong to the category of nuclear
 25 protein and/or RNA synthesis-related protein are the following
 42 clones.

BLADE2007958, BRACE2010489, BRACE2045300, BRACE3004150,
 BRACE3005430, BRACE3011421, BRAMY2046989, BRAMY3005932,
 BRCAN2002562, BRHIP2021615, BRSTN2001613, BRSTN2004987,
 30 COLON2000470, CTONG3009028, FCBBF3013307, HCHON2004531,
 IMR322006495, OCBBF2020801, PEBLM2005183, PUAEN2007044,
 SKNMC1000124, SMINT1000192, SPLEN2006122, SPLEN2010912,
 TESOP2009121, TESTI4009374, TESTI4009457, TESTI4013830,
 TESTI4019566, TESTI4022716, THYMU2033104, THYMU2035319,
 35 THYMU2038301, THYMU2040975, THYMU3001379, TRACH3004721,

TRACH3036609, UTERU2026025, UTERU3000828, UTERU3001572,
UTERU3003135, UTERU3004992

The following 16 clones are also predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein.

5 BRACE3010076, BRCAN2002854, BRHIP2006617, BRHIP2012360,
BRHIP3026052, BRSTN2013354, BRTHA2017364, HCASM2003099,
HCASM2008536, IMR322008651, NT2RI3000174, STOMA2003158,
TESTI2026647, TESTI4006473, TESTI4021482, THYMU2035078

10 The clones predicted to belong to the category of protein synthesis and/or transport-related protein are the following 57 clones.

ASTRO2002842, BLADE2005036, BRACE3025630, BRAMY2033003,
BRAMY3007609, BRAWH3000491, BRAWH3002574, BRAWH3008341,
BRCAN2002856, BRCAN2002948, BRCOC2003213, BRSTN2004987,
15 BRTHA2016496, BRTHA3013884, BRTHA3016917, CTONG2000042,
CTONG2013178, CTONG2023512, CTONG2024749, CTONG2025496,
CTONG3001370, DFNES2005266, FEBRA2026984, HCASM2007737,
HCHON2008444, HEART1000010, KIDNE2000846, NT2NE2006909,
NT2RI2011422, NT2RP7004027, NTONG2000413, OCBBF2031167,
20 TBAES2001229, TBAES2001258, TESTI1000319, TESTI2005610,
TESTI2051867, TESTI4000209, TESTI4000349, TESTI4001106,
TESTI4002491, TESTI4008050, TESTI4010851, TESTI4012406,
TESTI4012448, TESTI4013924, TESTI4028429, TESTI4034912,
THYMU2009157, TLIVE2008229, TRACH3007479, TRACH3008713,
25 TRACH3036193, UTERU2019940, UTERU3001988, UTERU3003116,
UTERU3007419

The following 15 clones are also predicted to belong to the category of protein synthesis and/or transport-related protein.

BRTHA2007060, BRTHA2018011, CTONG2016942, MESAN2001770,
30 MESAN2005303, NT2RP7008435, OCBBF2003327, PROST2000452,
TESOP2001796, TESTI4017714, THYMU2004284, THYMU2031139,
TRACH2024559, TRACH3007866, UTERU2021820

The clones predicted to belong to the category of cellular defense-related protein are the following three clones.

35 BRACE3005430, HCHON2004531, TESTI4007810

The following four clones are also predicted to belong to the category of cellular defense-related protein.

BRHIP2012360, FCBBF3027854, HCASM2008536, UTERU2032279

5 The clones predicted to belong to the category of development and/or differentiation-related protein are the following nine clones.

BRACE3009747, BRTHA2005579, BRTHA3003343, IMR322000917,
PEBLM2000170, TESOP2001122, TESOP2001953, TESTI2040018,
UTERU3006308

10 The following five clones are also predicted to belong to the category of development and/or differentiation-related protein.

BRALZ2017844, CTONG2020378, HCHON2004858, OCBBF2019684,
THYMU2006001

15 The clones predicted to belong to the category of DNA-binding and/or RNA-binding protein are the following 55 clones.

3NB692002685, BLADE2007958, BRACE2030326, BRACE2045596,
BRACE3001002, BRACE3004150, BRACE3009747, BRACE3045033,
BRCAN2002562, BRHIP2021615, BRSSN2014299, BRSTN2001613,
20 BRSTN2004987, BRTHA2014792, BRTHA3001721, BRTHA3003343,
CTONG2025516, CTONG3008831, CTONG3009028, FCBBF3013307,
FEBRA2007544, FEBRA2007801, HEART1000074, IMR322000127,
IMR322000917, NT2NE2006531, NT2RI3009158, OCBBF2020838,
OCBBF2036743, PEBLM2002887, PEBLM2005183, SKNMC2007504,
25 SMINT1000192, SPLEN2006122, TBAES2001229, TESTI2014716,
TESTI2040018, TESTI2044796, TESTI4009374, TESTI4012679,
TESTI4014175, TESTI4017543, TESTI4026510, TESTI4026524,
THYMU2006420, THYMU2035319, THYMU2037233, THYMU2040975,
THYMU3004866, TLIVE2008229, TRACH3036609, TUTER2000425,
30 UTERU2026025, UTERU2035328, UTERU3009490

The following 74 clones are also predicted to belong to the category of DNA-binding and/or RNA-binding protein.

BRACE2003609, BRACE3001058, BRACE3001113, BRACE3010076,
BRALZ2017844, BRAMY2035070, BRAMY2035449, BRAMY2035718,
35 BRAMY2039341, BRAWH1000369, BRAWH2006207, BRCAN2002854,
BRHIP2012360, BRHIP2017553, BRSTN2013354, BRTHA2017364,

CERVX2002013, CTONG1000113, CTONG2008721, CTONG2020378,
 CTONG2020411, CTONG2028758, CTONG3004726, DFNES2011192,
 FEBRA2014122, FEBRA2027609, HCASM2003018, HCASM2009424,
 HCHON2004858, HSYRA2005628, IMR322008651, MESAN2001770,
 5 MESAN2005303, MESAN2014412, MESAN2015501, NT2RI2008952,
 NT2RI2018448, NT2RI3000174, NT2RI3001132, OCBBF2008144,
 OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2032274,
 OCBBF3000167, SPLEN2004611, SPLEN2016135, SPLEN2016781,
 SYNOV2021953, SYNOV4002744, TESOP2005199, TESOP2006398,
 10 TESOP2006865, TESTI2026647, TESTI2034251, TESTI4000183,
 TESTI4000214, TESTI4006473, TESTI4008302, TESTI4015442,
 TESTI4025494, TESTI4025547, TESTI4028938, TESTI4032112,
 THYMU2006001, THYMU2035078, TRACH2007483, TRACH3000134,
 TRACH3002561, TRACH3003832, TUTER2000057, UTERU2033577,
 15 UTERU3001053, TESTI4038779

The clones predicted to belong to the category of ATP binding and/or GTP-binding protein are the following 68 clones.

BNGH42007788, BRACE2008594, BRACE2047377, BRACE3005430,
 BRACE3008720, BRACE3009708, BRACE3015521, BRACE3024073,
 20 BRAMY4000095, BRCAN2009432, BRCOC2003213, BRHIP3008405,
 BRSTN2013741, BRTHA3003449, BRTHA3015815, BRTHA3016917,
 COLON2002520, FEBRA2026984, HCASM2001301, HCHON2004007,
 HSYRA2008714, KIDNE2001361, KIDNE2001847, NESOP2001694,
 NT2RI2005166, NT2RP7013795, OCBBF3003320, OCBBF3003592,
 25 PEBLM2002594, PERIC2000889, PLACE6019385, SMINT1000192,
 SPLEN2037194, TESOP2000801, TESTI2006648, TESTI4000288,
 TESTI4001148, TESTI4001176, TESTI4002552, TESTI4007810,
 TESTI4008429, TESTI4009160, TESTI4009881, TESTI4011956,
 TESTI4013817, TESTI4014175, TESTI4016925, TESTI4018208,
 30 TESTI4018835, TESTI4019566, TESTI4021478, TESTI4022873,
 TESTI4026524, TESTI4029836, TESTI4035498, TESTI4036909,
 TESTI4037727, THYMU1000496, THYMU2033079, THYMU3001083,
 THYMU3001234, THYMU3001379, TRACH2009310, UTERU2019706,
 UTERU2025025, UTERU2035745, UTERU3000665, UTERU3000828

35 The following 24 clones are also predicted to belong to the category of ATP binding and/or GTP-binding protein.

BRHIP2026877, BRTHA2017364, BRTHA2018443, IMR322008651,
 IMR322013731, NT2RI3007443, NTONG2008093, OCBBF3002654,
 TESOP2000390, TESOP2007384, TESTI2025924, TESTI2026647,
 TESTI2049956, TESTI4005317, TESTI4006473, TESTI4021482,
 5 TESTI4026207, TESTI4031745, THYMU2004139, THYMU2031249,
 TRACH2000862, TRACH2024559, TRACH3000420, UTERU3000738

The 119 clones shown below are clones which were
 unassignable to any of the above-mentioned categories, but have
 been predicted to have some function based on homology search
 10 using their full-length nucleotide sequences. Clone Name and
 Definition in the result of homology search, demarcated by a
 double slash mark (//), are shown below.

ADRGL2009691// Mus musculus D11lgp1 mRNA, complete cds.
 ADRGL2009755// Homo sapiens brain and reproductive organ-
 15 expressed protein (BRE) mRNA, complete cds.
 ASTRO3000177// Drosophila melanogaster BcDNA.GH03694
 (BcDNA.GH03694) mRNA, complete cds.
 BLADE2008398// Homo sapiens LRR FLI-I interacting protein 2
 (LRRFIP2) mRNA, complete cds.
 20 BRACE2006319// Homo sapiens mRNA for Fln29, complete cds.
 BRACE2027258// Homo sapiens E2a-Pbx1-associated protein (EB-1)
 mRNA, partial cds.
 BRACE2038329// Rattus norvegicus CBL-B (Cbl-b) mRNA, partial cds.
 BRACE2046251// Homo sapiens hucep-10 mRNA for cerebral protein-
 25 10, complete cds.
 BRACE3003192// latent transforming growth factor beta binding
 protein 3 [Homo sapiens]
 BRACE3007625// espin [Rattus norvegicus]
 BRACE3009297// mdgl-1 [Mus musculus]
 30 BRACE3015262// espin [Mus musculus]
 BRACE3025457// testis-specific protein TSP-NY [Homo sapiens]
 BRALZ2016498// Homo sapiens FKSG76 (FKSG76) mRNA, complete cds.
 BRAMY2030109// Homo sapiens hucep-4 mRNA for cerebral protein-4,
 complete cds.
 35 BRAMY2031317// Mus musculus semaphorin cytoplasmic domain-
 associated protein 3A (Semcap3) mRNA, complete cds.

- BRAMY2047746// nasopharyngeal carcinoma susceptibility protein
[Homo sapiens]
- BRAMY3001794// Rattus norvegicus Circadian Oscillatory Protein
(SCOP) (Scop)
- 5 BRAWH2001940// H.sapiens gene from PAC 1026E2, partial.
BRAWH2012162// KE03 protein [Homo sapiens]
BRAWH2016724// MAP2=HMW-MAP2 {alternatively spliced} [rats,
brain, mRNA Partial, 267 nt].
BRAWH3002821// synaptotagmin-like 2 [Mus musculus]
- 10 BRCAN2002944// Mus musculus huntington yeast partner C (Hypc)
mRNA, complete cds.
BRCAN2013660// Arabidopsis thaliana putative protein (F4F15.330)
mRNA, complete cds.
BRHIP2002122// Homo sapiens B aggressive lymphoma long isoform
15 (BAL) mRNA, complete cds.
BRHIP2003786// CCA3 [Rattus norvegicus]
BRHIP2004359// ELAC PROTEIN.
BRHIP2007616// plexin 2
BRHIP2029393// COBW-like protein [Homo sapiens]
- 20 BRHIP3008313// testis specific ankyrin-like protein 1 [Homo
sapiens]
BRSSN2013874// TEMO [Rattus norvegicus]
BRSTN2017771// Homo sapiens putative BTK-binding protein mRNA,
complete cds.
- 25 BRTHA2012392// Homo sapiens HCDI (HCDI) mRNA, complete cds.
BRTHA3002933// uroplakin 3 [Homo sapiens]
BRTHA3008310// Mus musculus mRNA for iroquois homeobox protein 6
(Irx6 gene).
BRTHA3008520// sporulation-induced transcript 4-associated
30 protein; hypothetical protein FLJ11058 [Homo sapiens]
COLON2001721// GLUT4 vesicle protein [Mus musculus]
CTONG1000467// Mus musculus mRNA for Deltex3, complete cds.
CTONG2020026// Drosophila melanogaster BcDNA.GH09358
(BcDNA.GH09358) mRNA, complete cds.
- 35 CTONG3001123// Mus musculus Pax transcription activation domain
interacting protein PTIP mRNA, complete cds.

CTONG3002127// granuphilin [Mus musculus]
 CTONG3004072// GL002 protein [Homo sapiens]
 CTONG3006186// syntaxin binding protein 4 [Mus musculus]
 CTONG3008894// Mus musculus SH3-domain binding protein 5
 5 FCBBF1000297// Human protein immuno-reactive with anti-PTH
 polyclonal antibodies mRNA, partial cds.
 HCHON2000028// Homo sapiens 7h3 protein mRNA, partial cds.
 HCHON2000626// X-linked protein STS1769.
 HCHON2001217// Homo sapiens cullin CUL4B (CUL4B) mRNA, complete
 10 cds.
 HEART2006909// Hemolysin C.
 HLUNG2011041// basic proline-rich peptide IB-8a - human
 (fragments)
 HLUNG2014288// Mus musculus RP42 mRNA, complete cds.
 15 IMR322006886// Homo sapiens hepatocellular carcinoma-associated
 antigen 127 (HCA127) mRNA, complete cds.
 KIDNE2002252// Drosophila melanogaster BcDNA.GH09358
 (BcDNA.GH09358) mRNA, complete cds.
 KIDNE2011532// similar to melanoma-associated chondroitin
 20 sulfate proteoglycan 4
 NT2RI2012990// 76.5 KDA PROTEIN C21ORF13.
 NT2RI2025957// LU1 protein [Homo sapiens]
 NT2RI3006284// Homo sapiens chorea-acanthocytosis (CHAC) mRNA,
 complete cds.
 25 NT2RI3008697// erythroblast macrophage protein [Mus musculus]
 NT2RP8000296// similar to Kelch proteins
 NTONG2007517// RING CANAL PROTEIN (KELCH PROTEIN).
 OCBBF2002124// p40 [Homo sapiens]
 OCBBF2007610// PSD-95/SAP90-associated protein-4 [Rattus
 30 norvegicus].
 OCBBF2021323// Mus musculus GTRGEO22 (Gtrgeo22) mRNA, complete
 cds.
 OCBBF2028173// JM11 protein [Homo sapiens]
 PEBLM2001465// dipthamide biosynthesis; Dph5p [Saccharomyces
 35 cerevisiae]

- PERIC2004028// *Mus musculus* erythroblast macrophage protein EMP mRNA, complete cds.
- PLACE7006051// cytoplasmic dynein heavy chain 2 [*Rattus norvegicus*]
- 5 PROST2008993// *Mus musculus* Pax transcription activation domain interacting protein PTIP mRNA, complete cds.
- PUAEN2003079// nasopharyngeal carcinoma susceptibility protein [*Homo sapiens*]
- SPLEN2002147// *Halocynthia roretzi* mRNA for HrPET-3, complete
- 10 cds.
- SPLEN2032154// NDRG1 PROTEIN (DIFFERENTIATION-RELATED GENE 1 PROTEIN) (DRG1) (REDUCING AGENTS AND TUNICAMYCIN-RESPONSIVE PROTEIN) (RTP) (NICKEL- SPECIFIC INDUCTION PROTEIN CAP43).
- SYNOV2005216// *Homo sapiens* laryngeal carcinoma related protein
- 15 1 mRNA, complete cds.
- SYNOV2007965// *Homo sapiens* mRNA for H-1(3)mbt-like protein, alternative variant a.
- SYNOV4000706// B cell phosphoinositide 3-kinase adaptor [*Mus musculus*]
- 20 TBAES2004055// NY-REN-50 antigen
- TESOP2001605// *Homo sapiens* laryngeal carcinoma related protein 1 mRNA, complete cds.
- TESOP2005285// *Homo sapiens* partial mRNA for chr2 synaptotagmin (CHR2SYT gene).
- 25 TESTI2004215// *Maackia amurensis* early nodulin (ENOD2) mRNA, partial cds.
- TESTI2009477// TRICHOHYALIN.
- TESTI2034520// *Rattus norvegicus* SMC (segregation of mitotic chromosomes 1)-like 1 (yeast) (Smc1l1), mRNA
- 30 TESTI2052693// brk kinase substrate [*Homo sapiens*].
- TESTI4006079// MUF1 protein; likely ortholog of mouse MUF1; elongin BC-interacting leucine-rich repeat protein [*Homo sapiens*]
- TESTI4006393// neural specific sr protein NSSR 2 [*Mus musculus*]
- 35 TESTI4006546// colon cancer antigen NY-CO-45 [*Homo sapiens*].

- TESTI4006802// mesothelin; megakaryocyte potentiating factor
[Mus musculus]
- TESTI4008018// DAZ associated protein 2; KIAA0058 gene product
[Homo sapiens]
- 5 TESTI4009286// Homo sapiens HOTTL protein mRNA, complete cds
TESTI4009563// testis specific ankyrin-like protein 1 [Homo
sapiens]
- TESTI4010831// yeast Sec31p homolog; ABP125 [Homo sapiens]
- TESTI4011484// Sec23-interacting protein p125 [Homo sapiens]
- 10 TESTI4014818// AD-012 protein [Homo sapiens]
- TESTI4014924// selective hybridizing clone [Mus musculus]
- TESTI4019140// Mi-2 histone deacetylase complex protein 66
[Xenopus laevis]
- TESTI4019843// Rattus norvegicus huntingtin-associated protein
15 interacting protein (duo) (Hapip), mRNA.
- TESTI4023762// Trichohyalin.
- TESTI4025920// B29 protein [Homo sapiens]
- TESTI4039659// DnaJ homolog subfamily B member 8 (mDJ6).
- TESTI4044186// leucine-rich, glioma inactivated 1 [Mus musculus]
- 20 THYMU2011736// latent transforming growth factor beta binding
protein 3
- THYMU2032825// Mus musculus mRNA for Drctnnbla, complete cds.
- THYMU2038369// Mus musculus GTRGEO22 (Gtrgeo22) mRNA, complete
cds.
- 25 THYMU3001991// ART-4 protein [Homo sapiens]
- THYMU3006172// membrane bound C2 domain containing protein
[Rattus norvegicus]
- TLIVE2003225// CUB and Sushi multiple domains 1 [Homo sapiens]
- TLIVE2004320// Homo sapiens PC2-glutamine-rich-associated
30 protein (PCQAP) mRNA, complete cds.
- TOVAR2002247// Homo sapiens partial partial mRNA for NICE-4
protein, clone 3114f17.
- TRACH2023299// growth factor receptor bound protein 2-associated
protein 2 [Mus musculus]
- 35 TRACH3000926// cardiac morphogenesis [Mus musculus]
- TRACH3001427// p47 [Homo sapiens]

TRACH3006412// Homo sapiens COP9 constitutive photomorphogenic homolog subunit 7B

TRACH3034731// Ras association (RalGDS/AF-6) domain family 2

TUTER2002729// D6MM5E protein [Mus musculus]

5 UTERU1000031// G.gallus mRNA for tom-1B protein.

UTERU2006115// ALPHA-ADAPTIN A (CLATHRIN ASSEMBLY PROTEIN COMPLEX 2 ALPHA-A LARGE CHAIN) (100 KDA COATED VESICLE PROTEIN A) (PLASMA MEMBRANE ADAPTOR HA2/AP2 ADAPTIN ALPHA A SUBUNIT).

UTERU2031268// NY-REN-25 antigen [Homo sapiens].

10 UTERU2035452// NG3 [Homo sapiens]

UTERU3001059// ABC1 protein homolog, mitochondrial precursor.

UTERU3005585// rhophilin-like protein [Homo sapiens]

UTERU3009871// feminization 1 homolog a (C. elegans)

The 14 clones shown below are clones which were
15 unassignable to any of the above-mentioned categories, but have been predicted to have some function based on homology search using their full-length nucleotide sequences. Clone Name and Definition in the result of homology search, demarcated by a double slash mark (//), are shown below.

20 ADRGL2000042//Homo sapiens CTCL tumor antigen se20-4 mRNA, complete cds.

BRACE3009127//oxysterol binding protein 2; oxysterol binding protein-like 1 [Homo sapiens]

BRACE3021148//DC12 protein [Homo sapiens]

25 BRAMY2040159//Homo sapiens MRIP-1 mRNA, complete cds.

BRAWH3007441//CAT56 protein [Homo sapiens]

CTONG3001501//Mus musculus glucocorticoid-induced gene 1 mRNA, complete cds.

HCHON2000508//Homo sapiens prostate antigen PARIS-1 mRNA,

30 complete cds.

OCBBF2020048// 95 kDa retinoblastoma protein binding protein; KIAA0661 gene product

PERIC2007068//Mus musculus mRNA for 1A13 protein.

TESTI4010382//cytoplasmic dynein heavy chain 2 [Rattus
35 norvegicus]

TESTI4011072//tudor domain containing 1 [Mus musculus]

TESTI4046240//sirtuin 7

UTERU2019534//Golgi apparatus protein 1 [Homo sapiens]

UTERU2028734//Mus musculus slp2-a mRNA for synaptotagmin-like protein 2-a delta 2S-III, complete cds.

Further, a polypeptide will not always belong solely to a single category of the above-described functional categories, and therefore, a polypeptide may belong to any of the predicted functional categories. Further analyses may yield additional functions for clones classified into these functional categories.

Detailed descriptions concerning each domain or motif can be found in websites linked from the websites of Pfam, InterPro (<http://www.ebi.ac.uk/interpro/>), PROSITE

(<http://www.expasy.ch/cgi-bin/prosite-list.pl>), or such. This information can be found based on domain/motif names, and accession numbers of hit data obtained through domain searches of Pfam (<http://www.sanger.ac.uk/Software/Pfam/index.shtml>) (see Example 5) for amino acid sequences deduced from the 2,495 full-length clones of the present invention whose full-length nucleotide sequences have been determined. PROSITE in

particular enables comparison of unique functional categories. The functions of polypeptides encoded by the 914 clones with hit data in Pfam were predicted and classified into the 13 functional categories described below. As a result, 661 clones were estimated to encode proteins belonging to these categories.

Secretory and/or membrane protein (87 clones)

Glycoprotein-related protein (85 clones)

Signal transduction-related protein (154 clones)

Transcription-related protein (115 clones)

Enzyme and/or metabolism-related protein (265 clones)

Cell division- and/or cell proliferation-related protein (13 clones)

Cytoskeleton-related protein (40 clones)

Nuclear protein and/or RNA synthesis-related protein (31 clones)

Protein synthesis- and/or transport-related protein (46 clones)

Cellular defense-related protein (seven clones)

Development and/or differentiation-related protein (two clones)

DNA- and/or RNA-binding protein (179 clones)

5 ATP- and/or GTP-binding protein (36 clones)

The clones predicted to belong to the category of secretory protein and/or membrane protein are the following 64 clones.

ASTRO2014923, ASTRO3000301, BRACE2005457, BRACE2014306,
BRACE3001391, BRACE3014005, BRALZ2016085, BRAMY2040592,
10 BRAWH2014662, BRHIP2004814, BRHIP3024118, BRTHA3002427,
BRTHA3017848, BRTHA3018656, CTONG2009423, CTONG2013178,
D3OST2002648, FEBRA2007708, FEBRA2008311, HCHON2001084,
HCHON2001712, HCHON2004531, HCHON2005921, HSYRA2009102,
KIDNE1000064, KIDNE2000832, NT2RI3006376, OCBBF2031167,
15 OCBBF2035110, OCBBF2038317, PEBLM2002594, PERIC1000147,
PERIC2009086, PROST1000184, SPLEN2012624, SPLEN2031547,
SPLEN2033098, SPLEN2036326, TESTI1000257, TESTI1000390,
TESTI2000644, TESTI2002036, TESTI2002928, TESTI2006648,
TESTI2024567, TESTI2034520, TESTI4000014, TESTI4000724,
20 TESTI4007163, TESTI4009881, TESTI4028880, THYMU2009425,
THYMU2011548, THYMU2033079, THYMU2041015, TLIVE2000023,
TLIVE2003381, TLIVE2007132, TRACH2006387, TRACH2007059,
TRACH3004786, UTERU3000645, UTERU3004616, UTERU3006308

25 The following 23 clones are also predicted to belong to the category of secretory protein and/or membrane protein.

BRACE2029396, BRACE3005107, BRACE3010076, BRAMY2019111,
BRAMY3004800, BRHIP3000017, FCBBF1000509, HCHON2000508,
HEART2009680, IMR322013396, NT2RI2009583, NT2RI3000174,
NT2RP8000521, OCBBF2030116, TESTI2029252, TESTI4013894,
30 TESTI4032112, TESTI4041086, THYMU2035710, TKIDN2012771,
TRACH3000420, UTERU2004299, TESTI4038779

The clones predicted to belong to the category of glycoprotein-related protein are the following 77 clones.

ADIPS2000088, BRACE2043142, BRACE2046295, BRACE3014005,
35 BRAMY2005052, BRAMY4000277, BRAWH2007658, BRCAN2006063,
BRSTN2004863, BRTHA3017589, BRTHA3017848, COLON2000568,

COLON2004478, CTONG2000042, CTONG2013178, CTONG2024206,
 CTONG2024749, CTONG2025496, CTONG3001370, CTONG3003737,
 D3OST2002182, FEBRA2007708, HCHON2001084, HCHON2002676,
 HCHON2004531, HEART2001680, HLUNG2014262, LYMPB2000083,
 5 NESOP2001433, NOVAR2001108, NT2RI3006171, NT2RI3006340,
 NT2RI3007978, NT2RP7014005, OCBBF2010140, OCBBF2037598,
 PLACE5000171, PLACE6012574, PLACE7006051, PUAEN2009174,
 SMINT2002743, SMINT2010076, SMINT2011888, SMINT2015787,
 SPLEN2001599, SPLEN2015267, SPLEN2021701, SPLEN2037722,
 10 STOMA2004294, SYNOV3000231, SYNOV3000302, SYNOV4007521,
 SYNOV4007671, TBAES2003550, TESOP2005485, TESTI2005610,
 TESTI4006326, TESTI4021294, THYMU2005303, THYMU2019210,
 THYMU2023711, THYMU2027695, TRACH2007059, TRACH2022425,
 TRACH2022553, TRACH2022649, TRACH3002168, TRACH3005479,
 15 TRACH3005549, TRACH3006470, TRACH3035526, TRACH3036609,
 TSTOM2000442, UTERU2026090, UTERU3004616, UTERU3004992,
 UTERU3006308

The following eight clones are also predicted to belong to the category of glycoprotein-related protein.

20 BRAWH2006395, BRHIP3000017, NT2RI3007443, OCBBF3002654,
 TESTI2039060, TESTI4013894, TESTI4031745, TLIVE2001684

The clones predicted to belong to the category of signal transduction-related protein are the following 116 clones.

BLADE2007958, BNGH42007788, BRACE1000258, BRACE2008594,
 25 BRACE2041009, BRACE3001391, BRACE3006872, BRACE3011421,
 BRACE3024073, BRACE3027326, BRALZ2014484, BRAMY2001473,
 BRAMY2036567, BRAMY2042760, BRAMY2047751, BRAMY3001794,
 BRAMY3002803, BRAMY3005091, BRAMY3008466, BRAMY4000095,
 BRAWH3001326, BRAWH3002821, BRAWH3005912, BRCAN2002856,
 30 BRCAN2009432, BRCAN2016619, BRCAN2024451, BRCAN2028355,
 BRHIP2000819, BRHIP2005932, BRHIP3008405, BRHIP3025161,
 BRSSN2000684, BRSSN2004719, BRSTN2008418, BRSTN2013741,
 BRTHA3009037, BRTHA3013884, COLON2001721, CTONG2006798,
 CTONG3000084, CTONG3000657, CTONG3002127, D3OST3000169,
 35 DFNES2001108, DFNES2011499, FCBBF3007540, HCASM2001301,
 HCHON2000028, HCHON2006250, HHDPC1000118, HLUNG2001996,

HLUNG2002465, KIDNE2001847, MESAN2006563, NHNPC2001816,
 NT2NE2003252, NT2RI2005166, NT2RI3000622, NT2RI3006673,
 NT2RP7005118, NT2RP7005529, NT2RP7009147, NT2RP7013795,
 NT2RP8000483, NTONG2003852, OCBBF2004826, OCBBF2004883,
 5 OCBBF2007028, OCBBF2008770, OCBBF2022351, OCBBF2037340,
 OCBBF2037547, PEBLM2004666, PLACE7008431, PROST2016462,
 PROST2018511, PUAEN2002616, PUAEN2005930, PUAEN2006328,
 PUAEN2009852, SYNOV2021320, TESOP2000801, TESOP2001166,
 TESTI2006648, TESTI2026505, TESTI2050137, TESTI2052693,
 10 TESTI4000079, TESTI4010713, TESTI4010831, TESTI4011956,
 TESTI4016882, TESTI4019843, TESTI4028059, THYMU2032014,
 THYMU2037226, THYMU2038615, THYMU3001234, THYMU3006172,
 THYMU3008436, TLIVE2009541, TRACH2009310, TRACH2021398,
 TRACH2023299, TRACH2025535, TRACH3009455, TRACH3034731,
 15 TSTOM2000553, UTERU1000337, UTERU2005621, UTERU2025025,
 UTERU2036089, UTERU2038251, UTERU3003523, UTERU3007419

The following 38 clones are also predicted to belong to the category of signal transduction-related protein.

BLADE2000579, BRACE3001058, BRACE3003053, BRACE3009127,
 20 BRAMY2040159, BRAMY3004800, BRAWH3009017, BRCAN2014229,
 BRHIP2026877, BRTHA2013610, CTONG3004550, FEBRA2001990,
 FEBRA2008692, HCHON2000508, MESAN2001770, NT2RI2005772,
 NT2RI3007443, NTONG2008093, OCBBF2005433, OCBBF2024284,
 OCBBF2034637, OCBBF3002654, TESOP2000390, TESTI2025924,
 25 TESTI2049956, TESTI4000319, TESTI4005317, TESTI4021482,
 TESTI4025268, TESTI4031745, THYMU2004139, THYMU2031249,
 TRACH2024408, UTERU2008040, UTERU2028734, UTERU3000402,
 UTERU3000738, UTERU3015412

The clones predicted to belong to the category of transcription-related protein are the following 27 clones.

BRACE2006319, BRACE3013576, BRAMY2030109, BRAWH3005912,
 BRHIP3025161, CORDB1000140, CTONG1000467, HEART2001756,
 IMR322000127, IMR322000917, KIDNE1000064, NOVAR2000136,
 NT2NE2006531, NT2RI3007158, NT2RP7000466, OCBBF2036743,
 35 OCBBF3009279, PLACE6019385, TESTI2026505, TESTI2044796,

TESTI2050987, TESTI4017001, TESTI4019140, TESTI4034912,
THYMU2035735, TRACH2025749, TRACH3004840

The following 88 clones are also predicted to belong to the category of transcription-related protein.

5. BRACE2003609, BRACE3001058, BRACE3001113, BRACE3003026,
BRAMY2035070, BRAMY2035449, BRAMY2035718, BRAMY2039341,
BRAMY2045471, BRAWH3007441, BRHIP2017553, BRSTN2013354,
CERVX2002013, CTONG1000113, CTONG2003348, CTONG2020374,
CTONG2020378, CTONG2020411, CTONG2024031, CTONG2028758,
10 CTONG3001501, CTONG3004726, DFNES2011192, FCBBF3027854,
FEBRA2014122, FEBRA2027609, HCASM2003018, HCASM2003099,
HCHON2000508, HCHON2000743, HCHON2004858, HSYRA2005628,
MESAN2014412, MESAN2015501, NT2RI2008952, NT2RI2018448,
NT2RI3000174, NT2RI3001132, NT2RI3002557, NT2RI3007167,
15 NT2RI3007443, OCBBF2008144, OCBBF2009583, OCBBF2011669,
OCBBF2019684, OCBBF2020048, OCBBF2024284, OCBBF2032274,
OCBBF3000167, OCBBF3003761, SPLEN2016135, SPLEN2016781,
SPLEN2036702, SYNOV2021953, SYNOV4002744, TESOP2001796,
TESOP2005199, TESOP2006398, TESTI2008901, TESTI2034251,
20 TESTI2037830, TESTI4000183, TESTI4000214, TESTI4006473,
TESTI4008058, TESTI4008302, TESTI4013365, TESTI4014801,
TESTI4015442, TESTI4017714, TESTI4025494, TESTI4025547,
TESTI4028938, TESTI4029348, TESTI4031745, TESTI4032090,
THYMU2006001, THYMU2028739, THYMU2031139, THYMU3001428,
25 TRACH2007483, TRACH3000134, TRACH3003832, TRACH3007866,
UTERU3001053, UTERU3014791, UTERU3017176, TESTI4038779

The clones predicted to belong to the category of enzyme and/or metabolism-related protein are the following 176 clones.

3NB692002806, ASTRO1000009, BLADE2005036, BLADE2008539,
30 BRACE2005457, BRACE2008594, BRACE2014475, BRACE2018762,
BRACE2035381, BRACE2043142, BRACE2047011, BRACE3004058,
BRACE3007625, BRACE3009708, BRACE3011421, BRACE3015262,
BRACE3024073, BRACE3025630, BRACE3027478, BRAMY2047746,
BRAMY2047751, BRAMY3002803, BRAMY3004919, BRAMY3005091,
35 BRAMY4000095, BRAWH2010000, BRAWH2014414, BRAWH2014662,
BRAWH2016702, BRAWH3002821, BRAWH3003727, BRCAN2021028,

BRCAN2024451, BRCAN2028355, BRCOC2003213, BRHIP2004359,
 BRHIP2026288, BRHIP3008183, BRHIP3025161, BRHIP3027137,
 BRSSN2000684, BRSTN2000872, BRSTN2004863, BRSTN2004987,
 BRTHA2012980, BRTHA3002401, BRTHA3008778, BRTHA3009037,
 5 BRTHA3009090, BRTHA3015815, BRTHA3016917, BRTHA3017848,
 BRTHA3018656, COLON2001721, CTONG2004062, CTONG2006798,
 CTONG2013178, CTONG2028124, CTONG3002127, CTONG3005325,
 CTONG3005648, D3OST2002182, FCBBF3004502, FCBBF3013307,
 FEBRA2007708, FEBRA2008468, FEBRA2026984, HCASM2001301,
 10 HCASM2002918, HCHON2002676, HCHON2004007, HCHON2004531,
 HEART2006131, HHDPC1000118, HLUNG1000017, KIDNE2000832,
 KIDNE2006580, MESAN2012054, NOVAR2000136, NT2NE2003252,
 NT2NE2006909, NT2RI2004618, NT2RI3004510, NT2RI3006673,
 NT2RI3007978, NT2RI3008652, NT2RP7010599, NT2RP7014005,
 15 NT2RP7017474, NTONG2000413, OCBBF2004826, OCBBF2006058,
 OCBBF2019823, OCBBF2025527, OCBBF2031167, OCBBF2037340,
 OCBBF2037547, OCBBF2037638, PERIC2009086, PLACE7002641,
 PLACE7008431, PROST2017367, PUAEN2007044, PUAEN2009795,
 PUAEN2009852, SPLEN2010912, SPLEN2015679, SPLEN2030335,
 20 SYNOV4002392, SYNOV4002883, TBAES2003550, TESOP2000801,
 TESOP2004114, TESOP2009121, TESTI1000257, TESTI1000545,
 TESTI2002618, TESTI2006648, TESTI2040018, TESTI2049469,
 TESTI2053621, TESTI4000288, TESTI4000349, TESTI4001148,
 TESTI4001527, TESTI4001561, TESTI4002552, TESTI4006819,
 25 TESTI4007382, TESTI4007810, TESTI4008429, TESTI4010713,
 TESTI4010851, TESTI4012448, TESTI4012679, TESTI4013369,
 TESTI4016925, TESTI4018835, TESTI4020920, TESTI4021478,
 TESTI4022716, TESTI4026510, TESTI4028059, TESTI4029836,
 TESTI4032895, TESTI4034432, TESTI4036909, THYMU2006420,
 30 THYMU3000133, THYMU3001379, THYMU3004835, THYMU3006172,
 THYMU3008436, TLIVE2002336, TRACH2006387, TRACH2009310,
 TRACH2019473, TRACH2022425, TRACH2023299, TRACH3005479,
 TRACH3006470, TRACH3007479, TRACH3008093, TRACH3008629,
 TRACH3036193, TSTOM2000553, UTERU2005621, UTERU2017762,
 35 UTERU2025025, UTERU2033375, UTERU3000828, UTERU3001240,
 UTERU3001585, UTERU3003116, UTERU3005460, UTERU3005907

The following 89 clones are also predicted to belong to the category of enzyme and/or metabolism-related protein.

BLADE2000579, BRACE2039823, BRACE3003053, BRAMY2038516,
 BRAMY2040159, BRAWH1000369, BRCAN2003070, BRCAN2014229,
 5 BRROC2019841, BRHIP2005724, BRHIP2008389, BRHIP2026877,
 BRHIP3000240, BRHIP3026052, BRTHA2002133, BRTHA2002702,
 BRTHA2007060, BRTHA2010033, BRTHA2013426, BRTHA2013610,
 BRTHA2017364, BRTHA2018011, BRTHA3000296, CTONG2004000,
 CTONG2016942, CTONG2020374, CTONG2024031, CTONG3002552,
 10 CTONG3003598, CTONG3004550, FCBBF1000509, FEBRA2008692,
 HCASM2002754, HCASM2003099, HCASM2003357, HLUNG2015418,
 HLUNG2015548, IMR322013731, MESAN2005303, NT2RI2005772,
 NT2RI2008952, NT2RI3000174, NT2RI3007443, NT2RP7008435,
 NTONG2008093, OCBBF2006987, OCBBF2034637, OCBBF3002654,
 15 PLACE7000333, PLACE7000502, PROST2000452, SPLEN2039311,
 STOMA2003158, SYNOV2013637, TESOP2000390, TESTI2015626,
 TESTI2025924, TESTI2026647, TESTI2035981, TESTI2036288,
 TESTI2039060, TESTI2049956, TESTI4000155, TESTI4001984,
 TESTI4006473, TESTI4010382, TESTI4011072, TESTI4014801,
 20 TESTI4017714, TESTI4021482, TESTI4025547, TESTI4025865,
 TESTI4026207, TESTI4028958, TESTI4029690, TESTI4031745,
 TESTI4032090, THYMU2004139, THYMU2031139, THYMU2031249,
 THYMU2040925, TKIDN2012771, TLIVE2002046, TLIVE2007607,
 TRACH3000420, TRACH3007866, UTERU2019534, UTERU2028734,
 25 UTERU3000738

The clones predicted to belong to the category of cell division and/or cell proliferation-related protein are the following ten clones.

BRAWH2001940, CTONG3001123, HCHON2001217, PROST2008993,
 30 TBAES2001171, TESTI4021294, TESTI4035498, UTERU1000024,
 UTERU3002993, UTERU3003523

The following three clones are also predicted to belong to the category of cell division and/or cell proliferation-related protein.

35 BRACE2029396, BRAWH2010552, TESTI4013365

The clones predicted to belong to the category of cytoskeleton-related protein are the following 36 clones.

BRACE2026836, BRACE2045300, BRAWH3000314, BRSTN2004863,
 BRTHA2004978, BRTHA3003449, BRTHA3005046, COLON2002520,
 5 CORDB2000541, CTONG3002674, FCBBF3012288, HCHON2001577,
 HLUNG2017350, HSYRA2005456, HSYRA2009075, NT2RI3006340,
 NT2RI3006673, NT2RI3007291, OCBBF2037598, PLACE5000282,
 TESTI2003347, TESTI2034767, TESTI4000288, TESTI4007778,
 TESTI4009160, TESTI4018886, TESTI4030603, TESTI4034632,
 10 TESTI4035063, THYMU1000496, THYMU2008725, TRACH2005811,
 TRACH2007059, UTERU2007724, UTERU2035745, UTERU3004616

The following four clones are also predicted to belong to the category of cytoskeleton-related protein.

NT2RI2005772, OCBBF2006987, SPLEN2030847, TESTI4026207

15 The clones predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein are the following 20 clones.

BRACE3024073, BRAWH2001940, BRCOC2003213, BRSTN2004987,
 BRTHA3016917, CTONG3009028, FCBBF3013307, FEBRA2026984,
 20 SPLEN2010912, TBAES2001171, TESTI2040018, TESTI4019566,
 TESTI4022716, TESTI4026510, TESTI4036909, THYMU3000133,
 TRACH2023299, TRACH3036193, UTERU1000024, UTERU3002993

The following eleven clones are also predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein.

BRACE3003053, BRCAN2002473, BRTHA2017364, NT2RI2008952,
 NT2RI3000174, TESTI2026647, TESTI2035981, TESTI4000155,
 TESTI4006473, TESTI4010382, TESTI4025547

25 The clones predicted to belong to the category of protein synthesis and/or transport-related protein are the following 29 clones.

BRACE2014306, BRACE3008720, BRAWH3000491, BRCAN2009432,
 BRHIP2000920, BRTHA3013884, CTONG2013178, HCHON2004531,
 HLUNG1000017, HLUNG2013851, HSYRA2005496, NT2NE2006909,
 35 NT2RI3006340, OCBBF2007068, OCBBF2031167, PUAEN2009795,
 TBAES2001229, TBAES2004055, TESTI2051867, TESTI4000014,

TESTI4000349, TESTI4009608, TESTI4010851, TESTI4034632,
 TRACH3007479, TRACH3036193, UTERU2017762, UTERU2019940,
 UTERU2033375

The following 17 clones are also predicted to belong to the
 5 category of protein synthesis and/or transport-related protein.

BLADE2000579, BRACE3003053, BRCAN2003070, BRTHA2018011,
 BRTHA3000296, CTONG2016942, MESAN2005303, NT2RI3002557,
 NT2RP7008435, PERIC2007068, PLACE7000502, PROST2000452,
 TESTI4001984, TESTI4017714, THYMU2004284, TRACH3000420,

10 TRACH3007866

The clones predicted to belong to the category of cellular
 defense-related protein are the following four clones.

BRTHA2015878, CTONG3000084, NT2RI3002842, PEBLM2004666

The following three clones are also predicted to belong to
 15 the category of cellular defense-related protein.

BRCAN2002473, NT2RI3007167, TRACH3002561

The clones predicted to belong to the category of
 development and/or differentiation-related protein are the
 following one clone.

20 TESTI4014924

The clones predicted to belong to the category of DNA-
 binding and/or RNA-binding protein are the following 67 clones.

BRACE2006319, BRACE2047011, BRACE3004150, BRACE3013576,
 BRACE3024073, BRAMY2030109, BRAWH3005912, BRCAN2002562,

25 BRCOC2003213, BRHIP2021615, BRHIP3008183, BRHIP3025161,

BRSTN2004987, BRTHA2018707, BRTHA3016917, CORDB1000140,

CTONG1000467, CTONG3000084, CTONG3003972, CTONG3008831,

CTONG3009028, FCBBF3013307, FEBRA2026984, HEART2001756,

HLUNG2013851, IMR322000127, IMR322000917, KIDNE1000064,

30 NT2NE2006531, NT2RI3003382, NT2RI3007158, NT2RP7000466,

NT2RP7004123, OCBBF2036743, OCBBF3009279, PLACE6019385,

SPLEN2006122, SPLEN2010912, TESOP2009121, TESTI1000390,

TESTI2014716, TESTI2026505, TESTI2040018, TESTI2044796,

TESTI2050987, TESTI4007810, TESTI4009374, TESTI4011745,

35 TESTI4012679, TESTI4017001, TESTI4019140, TESTI4019566,

TESTI4022716, TESTI4026510, TESTI4034432, TESTI4034912,

TESTI4036909, THYMU2035319, THYMU2035735, THYMU3000133,
 TLIVE2002336, TRACH2023299, TRACH2025749, TRACH3004840,
 TRACH3036193, UTERU2026025, UTERU3009490

The following 112 clones are also predicted to belong to
 5 the category of DNA-binding and/or RNA-binding protein.
 BLADE2006830, BRACE2003609, BRACE3001058, BRACE3001113,
 BRACE3003026, BRACE3003053, BRACE3010076, BRAMY2035070,
 BRAMY2035449, BRAMY2039341, BRAMY2045471, BRAWH1000369,
 BRAWH3007441, BRHIP2017553, BRSTN2013354, BRTHA2002133,
 10 BRTHA2002702, BRTHA2017364, BRTHA2017972, CERVX2002013,
 CTONG1000113, CTONG2003348, CTONG2015596, CTONG2020374,
 CTONG2020378, CTONG2020411, CTONG2024031, CTONG2028758,
 CTONG3001501, CTONG3004726, DFNES2011192, FCBBF1000509,
 FCBBF3027854, FEBRA2014122, FEBRA2027609, HCASM2003018,
 15 HCASM2003099, HCASM2009424, HCHON2000508, HCHON2000743,
 HCHON2004858, HSYRA2005628, IMR322013731, MESAN2014412,
 MESAN2015501, NT2RI2008952, NT2RI2018448, NT2RI2027157,
 NT2RI3000174, NT2RI3001132, NT2RI3002557, NT2RI3007167,
 NT2RI3007443, OCBBF2006987, OCBBF2008144, OCBBF2009583,
 20 OCBBF2011669, OCBBF2019684, OCBBF2020048, OCBBF2024284,
 OCBBF2032274, OCBBF2034637, OCBBF3000167, OCBBF3003761,
 PERIC2007068, SPLEN2016135, SPLEN2016781, SPLEN2036702,
 STOMA2003158, SYNOV2021953, SYNOV4002744, TESOP2001796,
 TESOP2005199, TESOP2006398, TESTI2008901, TESTI2026647,
 25 TESTI2034251, TESTI2035981, TESTI2037830, TESTI4000155,
 TESTI4000183, TESTI4000214, TESTI4006473, TESTI4008058,
 TESTI4008302, TESTI4010382, TESTI4013365, TESTI4014801,
 TESTI4015442, TESTI4017714, TESTI4025494, TESTI4025547,
 TESTI4026207, TESTI4028938, TESTI4028958, TESTI4029348,
 30 TESTI4031745, TESTI4032090, THYMU2006001, THYMU2028739,
 THYMU2031139, THYMU3001428, TKIDN2012771, TLIVE2007607,
 TRACH2007483, TRACH3000134, TRACH3003832, TRACH3007866,
 UTERU3001053, UTERU3014791, UTERU3017176, TESTI4038779

The clones predicted to belong to the category of ATP
 35 binding and/or GTP-binding protein are the following 28 clones.

BRACE3008720, BRACE3009708, BRAMY2047746, BRAMY3004919,
 BRAWH2014662, BRAWH2016702, BRCAN2009432, BRCAN2024451,
 BRSTN2013741, BRTHA3008778, BRTHA3009090, CTONG2004062,
 CTONG2028124, HCHON2004007, OCBBF2037340, SPLEN2030335,
 5 TESTI4000288, TESTI4001148, TESTI4002552, TESTI4008429,
 TESTI4018835, TESTI4021478, TESTI4029836, THYMU2036459,
 THYMU3001379, TRACH2001549, UTERU3000828, UTERU3001240

The following eight clones are also predicted to belong to the category of ATP binding and/or GTP-binding protein.

10 BRCAN2014229, BRHIP2008389, CTONG3004550, FEBRA2001990,
 IMR322013396, IMR322013731, MESAN2001770, TESTI4000319

The following 208 clones have hit data in Pfam (see Example 5), and each has a functional domain or motif. It is currently unclear as to which of the above-described categories each of
 15 these clones belong. However, if data on polypeptides with a similar domain or motif can be accumulated, and their functions clarified in more detail, they may be classified into any of the above-described categories.

3NB692002685, 3NB692008729, ASTRO2003960, BNGH42003570,
 20 BRACE2010489, BRACE2015314, BRACE2016981, BRACE2027258,
 BRACE2030341, BRACE2035441, BRACE2038329, BRACE2042550,
 BRACE2044286, BRACE3000071, BRACE3000973, BRACE3001002,
 BRACE3003192, BRACE3004772, BRACE3004880, BRACE3008137,
 BRACE3008384, BRACE3009090, BRACE3010397, BRACE3015521,
 25 BRACE3016884, BRACE3019084, BRAMY2004771, BRAMY2019300,
 BRAMY2021498, BRAMY2031317, BRAMY2039872, BRAMY2046989,
 BRAMY3004224, BRAMY3005932, BRAWH1000127, BRAWH2001395,
 BRAWH2014954, BRAWH3000078, BRAWH3001891, BRAWH3002574,
 BRAWH3002600, BRAWH3008341, BRCAN2002948, BRCAN2009203,
 30 BRCAN2015464, BRCAN2017717, BRCOC2001505, BRCOC2016525,
 BRHIP2003786, BRHIP2005236, BRHIP2007616, BRHIP2009414,
 BRHIP3000339, BRHIP3008313, BRSTN2001067, BRTHA2000855,
 BRTHA2005579, BRTHA2007122, BRTHA2008527, BRTHA2009311,
 BRTHA2010884, BRTHA2013262, BRTHA2014792, BRTHA2015406,
 35 BRTHA2016496, BRTHA2018591, BRTHA2018624, BRTHA2019048,
 BRTHA3003074, BRTHA3008310, CTONG1000341, CTONG2001877,

CTONG2008233, CTONG2017500, CTONG2020026, CTONG2028687,
 CTONG3000686, CTONG3004072, CTONG3006067, CTONG3006186,
 CTONG3009385, DFNES2000146, DFNES2005266, FCBBF3009888,
 FCBBF3012170, FEBRA2000253, FEBRA2007801, FEBRA2021571,
 5 FEBRA2024150, HCHON2004776, HEART1000139, HEART2006909,
 HEART2010495, HLUNG2000014, HLUNG2002958, HLUNG2011298,
 IMR322006495, KIDNE2000846, KIDNE2001361, KIDNE2011635,
 KIDNE2012945, NESOP2001656, NT2RI2008724, NT2RI2025909,
 NT2RI2025957, NT2RI3007543, NT2RP7000359, NT2RP7004027,
 10 NT2RP7011570, NT2RP8000296, NTONG2005277, NTONG2006354,
 NTONG2007517, OCBBF2006764, OCBBF2010416, OCBBF2020838,
 OCBBF2021323, OCBBF2033869, PERIC2001228, PERIC2003720,
 PLACE6020031, PLACE7000514, PROST2018090, RECTM2000433,
 SKMUS2006394, SMINT1000192, SPLEN2002147, SPLEN2002467,
 15 SPLEN2031780, SPLEN2034081, SPLEN2036821, SYNOV2005448,
 SYNOV2005817, SYNOV2006430, SYNOV2014400, SYNOV4007553,
 SYNOV4008440, TESOP2001953, TESTI2000443, TESTI2004700,
 TESTI2027019, TESTI4000462, TESTI4000970, TESTI4002491,
 TESTI4006546, TESTI4007064, TESTI4011484, TESTI4012406,
 20 TESTI4015471, TESTI4016110, TESTI4017137, TESTI4017575,
 TESTI4018152, TESTI4018555, TESTI4020092, TESTI4023555,
 TESTI4025920, TESTI4026192, TESTI4027557, TESTI4028429,
 TESTI4028612, TESTI4028983, TESTI4030505, TESTI4038492,
 TESTI4039659, TESTI4041053, TESTI4044084, TESTI4046487,
 25 TESTI4046819, THYMU2004693, THYMU2011736, THYMU2016204,
 THYMU2027734, THYMU2038369, THYMU2038797, THYMU3000028,
 THYMU3003212, THYMU3003763, THYMU3007137, THYMU3008171,
 TLIVE2002338, TLIVE2002690, TLIVE2003225, TLIVE2008229,
 TRACH2001443, TRACH3001427, TRACH3003379, TRACH3008713,
 30 TRACH3035235, TUTER2000425, UTERU1000031, UTERU2006115,
 UTERU2006568, UTERU2019706, UTERU2035328, UTERU2035331,
 UTERU2035452, UTERU3001652, UTERU3001766, UTERU3001988,
 UTERU3002667, UTERU3003178, UTERU3005585, UTERU3007640,
 UTERU3008660, UTERU3009871, UTERU3009979, UTERU3015500

35 Likewise, the following 45 clones also had hit data in Pfam
 (see Example 5), although it remains unclear as to which of the

above-described categories each clone belongs. When data on polypeptides with a similar domain or motif are accumulated, and their functions are clarified in more detail, these clones may also be classified into any of the above-described categories.

- 5 3NB692004724// KRAB box// Integrase core domain
ADRGL2000042// Nucleosome assembly protein (NAP)
BRACE2037299// Integrase core domain
BRALZ2017844// Homeobox domain
BRAWH2006207// KRAB box
- 10 BRCAN2002854// SAP domain
BRHIP2006617// TPR Domain// TPR Domain
BRHIP2012360// XPG N-terminal domain// XPG I-region
BRHIP3008314// Sir2 family
BRTHA2016318// KE2 family protein
- 15 CTONG2019822// Hepatitis C virus core protein
FCBBF3010361// Fork head domain
FEBRA2006519// Thrombospondin type 1 domain// Thrombospondin type 1 domain
FEBRA2028256// EGF-like domain// EGF-like domain// EGF-like domain// EGF-like domain// EGF-like domain// TB domain// EGF-like domain// EGF-like domain// EGF-like domain// EGF-like domain// EB module// Squash family of serine protease inhibitors// EGF-like domain// EGF-like domain
FEBRA2028516// GRIP domain
- 25 HCASM2008536// XRCC1 N terminal domain
IMR322007078// UBA domain
IMR322008651// Helix-hairpin-helix motif.
LIVER2000247// Sodium
OCBBF2003327// Thrombospondin type 1 domain// Thrombospondin type 1 domain// Thrombospondin type 1 domain
- 30 PROST2009320// LIM domain containing proteins// LIM domain containing proteins
PUAEN2006335// Formin Homology 2 Domain
SKMUS2003194// SAP domain
- 35 SPLEN2039379// Transthyretin precursor (formerly prealbumin)
SYNOV1000256// Leucine Rich Repeat// BAH domain// Leucine Rich

Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 SYNOV2006620// Nuclear transition protein 2
 SYNOV4003981// Somatomedin B domain// WAP-type (Whey Acidic
 Protein) 'four-disulfide core'// Hemopexin// Hemopexin
 5 SYNOV4005889// Apolipoprotein A1/A4/E family
 TESOP2006865// KRAB box
 TESTI1000266// Integrase core domain
 TESTI2050780// Kazal-type serine protease inhibitor domain
 TESTI4000137// Domain of unknown function
 10 TESTI4024387// GDP dissociation inhibitor
 TESTI4029528// RanBP1 domain.
 TESTI4038721// Squash family of serine protease inhibitors
 TESTI4046240// Sir2 family
 THYMU2035078// Domain of unknown function DUF27
 15 THYMU3000269// FAD binding domain
 THYMU3000360// Integrase core domain
 TRACH1000212// TSC-22/dip/bun family
 TRACH2000862// Guanylate-binding protein
 TRACH2019672// CRAL/TRIO domain.
 20 TRACH2024559// IQ calmodulin-binding motif// IQ calmodulin-
 binding motif
 UTERU2032279// Serpins (serine protease inhibitors)
 UTERU2033577// KRAB box

The function of a motif or domain may sometimes belong to
 25 more than one of the above-described functional categories, and
 there is also the possibility that such a motif or domain may be
 predicted to belong to every functional category. As new
 polypeptide data are accumulated and novel domains and motifs
 are found, a new functional domain or motif may be identified by
 30 re-analyzing deduced amino acid sequences in homology searches
 using updated databases. Thus in the future, the remaining
 clones, for which there are currently no hit data, may be
 classified into any of the above-described categories.

Since the polypeptides encoded by clones of the present
 35 invention contain full-length amino acid sequences, it is
 possible to analyze their biological activity and effect on

cellular conditions such as cell proliferation and differentiation, by expressing the polypeptides as recombinant polypeptides using an appropriate expression system, injecting the recombinant into a cell, or raising a specific antibody
5 against that polypeptide.

The biological activities of respective polypeptides can be analyzed by the methods as shown below.

Secretory protein, transmembrane protein:

"Ion Channels" (Ed., R. H. Ashley, 1995) of "The Practical
10 Approach Series" (IRL PRESS),
"Growth Factors" (Eds., I. McKay, I. Leigh, 1993),
"Extracellular Matrix" (Eds., M. A. Haralson, J. R. Hassell,
1995);

Glycoprotein-related protein:

"Glycobiology" (Eds., M. Fukuda, A. Kobata, 1993) of "The
15 Practical Approach Series" (IRL PRESS),

"Glycoprotein Analysis in Biomedicine" (Ed., Elizabeth F. Hounsell, 1993) of "Method in Molecular Biology" (Humana Press) series;

20 Signal transduction-related protein:

"Signal Transduction" (Ed., G. Milligan, 1992) of "The Practical Approach Series" (IRL PRESS),

"Protein Phosphorylation" (Ed., D. G. Hardie, 1993), or

"Signal Transduction Protocols" (Eds., David A. Kendall,
25 Stephen J. Hill, 1995) of "Method in Molecular Biology" (Humana Press) series;

Transcription-related protein:

"Gene Transcription" (Eds., B. D. Hames, S. J. Higgins, 1993) of "The Practical Approach Series" (IRL PRESS),

30 "Transcription Factors" (Ed., D. S. Latchman, 1993);

Enzyme and/or metabolism-related protein:

"Enzyme Assays" (Eds., ROBERT EISENTHAL and MICHAEL J. DANSON, 1992) of "The Practical Approach Series" (IRL PRESS);

Cell division and/or cell proliferation-related protein:

"Cell Growth, Differentiation and Senescence" (Ed., GEORGE STUDZINSKI, 2000) of "The Practical Approach Series" (IRL PRESS);

Cytoskeleton-related protein:

- 5 "Cytoskeleton: Signalling and Cell Regulation" (Eds., KERMIT L. CARRAWAY and CAROLIE A. CAROTHERS CARRAWAY, 2000) of "The Practical Approach Series" (IRL PRESS),

"Cytoskeleton Methods and Protocols" (Ed., Gavin, Ray H., 2000) of "Method in Molecular Biology" (Humana Press) series;

- 10 Nuclear protein and/or RNA synthesis-related protein:

"Nuclear Receptors" (Ed., DIDIER PICARD, 1999) of "The Practical Approach Series" (IRL PRESS),

"RNA Processing" (Eds., STEPHEN J. HIGGINS and B. DAVID HAMES, 1994);

- 15 Protein synthesis and/or transport-related protein:

"Membrane Transport" (Ed., STEPHEN A. BALDWIN, 2000) of "The Practical Approach Series" (IRL PRESS),

- 20 "Protein Synthesis Methods and Protocols" (Eds., Martin, Robin, 1998) of "Method in Molecular Biology" (Humana Press) series;

Cellular defense-related protein:

"DNA Repair Protocols" (Henderson, Daryl S., 1999) of "Method in Molecular Biology" (Humana Press) series,

"Chaperonin Protocols" (Eds., Schneider, Christine, 2000);

- 25 Development and/or differentiation-related protein:

"Developmental Biology Protocols" (Eds., ROBERT EISENTHAL and MICHAEL J. DANSON, 1992) of "Method in Molecular Biology" (Humana Press) series;

DNA- and/or RNA-binding protein:

- 30 "DNA-Protein Interactions Principles and Protocols" (Eds., Kneale, G. Geoff, 1994) of "Method in Molecular Biology" (Humana Press) series,

"RNA-Protein Interaction Protocols" (Eds., Haynes, Susan R., 1999);

- 35 ATP- and/or GTP-binding protein:

"Signal Transduction Protocols" (Eds., David A. Kendall, Stephen J. Hill, 1995) of "Method in Molecular Biology" (Humana Press) series.

5 When other techniques are used, the activity of a polypeptide can be analyzed according to the description in Methods in Enzymology (Academic Press).

10 In the above-described categorization, a clone predicted to belong to the secretory and/or membrane protein category refers to a clone having hit data in a homology search with some annotation to suggest that the clone encodes a secretory and/or membrane protein, such as a growth factor, cytokine, hormone, signal, transmembrane, membrane, extracellular matrix, receptor, G-protein coupled receptor, ionic channel, voltage-gated channel, calcium channel, cell adhesion, collagen, and connective tissue protein; or a clone in which the results of PSORT and SOSUI analyses for deduced ORF suggest the presence of a nucleotide sequence encoding a signal sequence or transmembrane region; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains/motifs that suggest receptors, 15 ion channels, hormones, or growth factors, for example, seven-transmembrane receptors, pancreatic hormone peptides, ion transport proteins, or fibroblast growth factors.

20 A clone predicted to belong to the glycoprotein-related protein category means a clone having hit data in a homology search with some annotation, such as glycoprotein, suggesting that the clone encodes a glycoprotein-related protein; or a clone in which the results of a domain/motif search with Pfam indicate the presence of domains and motifs such as a glycoprotein or glycosyltransferase that suggest the involvement of glycobiology, for example, immunoglobulin domain or glycosyl transferases group 1. 25 30

35 A clone predicted to belong to the signal transduction-related protein category means a clone having hit data in a homology search with some annotation, such as serine/threonine-protein kinase, tyrosine-protein kinase, SH3 domain, and SH2 domain, suggesting that the clone encodes a signal transduction-

related protein; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest a protein kinase, dephosphoenzyme, SH2 domain, or small G protein, for example, eukaryotic protein kinase domain, protein phosphatase 2C, or Ras family.

A clone predicted to belong to the transcription-related protein category means a clone having hit data in a homology search with some annotation, such as transcription regulation, zinc finger, and homeobox, suggesting that the clone encodes a transcription-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest a transcription factor or transcription-controlling protein, for example, bZIP transcription factor, Zinc finger, or C2H2 type.

A clone predicted to belong to the category of disease-related protein means a clone having hit data in a homology search with some annotation, such as disease mutation and syndrome, suggesting that the clone encodes a disease-related protein; or a clone whose full-length nucleotide sequence has hit data in Swiss-Prot, GenBank, UniGene, nr or RefSeq, where that hit data corresponds to genes or polypeptides which have been deposited in the Online Mendelian Inheritance in Man (OMIM) (<http://www.ncbi.nlm.nih.gov/Omim/>), the human gene and disease database described later; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs, that suggest proteins with disease-specific expression or proteins involved in increasing or decreasing expression (depending on the disease), for example, Wilm's tumor protein or von Hippel-Lindau disease tumor suppressor protein.

A clone predicted to belong to the category of enzyme and/or metabolism-related protein means a clone having hit data in a homology search with some annotation, such as metabolism, oxidoreductase, and E. C. No. (Enzyme commission number), suggesting that the clone encodes an enzyme and/or metabolism-related protein; or a clone in which the results of a domain/motif search with Pfam suggests the presence of domains

and motifs that suggest transferase, synthase, or hydrolase, for example, aldehyde dehydrogenase family, chitin synthase, or glucose-6-phosphate dehydrogenase.

5 A clone predicted to belong to the category of cell division and/or cell proliferation-related protein means a clone having hit data in a homology search with some annotation, such as cell division, cell cycle, mitosis, chromosomal protein, cell growth, and apoptosis, suggesting that the clone encodes a cell division and/or cell proliferation-related protein; or a clone
10 in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest cyclin or cell proliferation-controlling protein, for example, cyclin or cell division protein.

A clone predicted to belong to the category of
15 cytoskeleton-related protein means a clone having hit data in a homology search with some annotation, such as structural protein, cytoskeleton, actin-binding, and microtubules, suggesting that the clone encodes a cytoskeleton-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the
20 presence of domains and motifs that suggest actin, kinesin, or fibronectin, for example, actin, fibronectin type I domain, or kinesin motor domain.

A clone predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein means a clone
25 having hit data in a homology search with some annotation, such as nuclear protein, RNA splicing, RNA processing, RNA helicase, and polyadenylation, suggesting that the clone encodes a nuclear protein and/or RNA synthesis-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the
30 presence of domains and motifs that suggest splicing factor, RNA synthase, or helicase, for example, hepatitis C virus RNA dependent RNA polymerase or DEAD/DEAH box helicase.

A clone predicted to belong to the category of protein synthesis and/or transport-related protein means a clone having
35 hit data in a homology search with some annotation, such as translation regulation, protein biosynthesis, amino-acid

biosynthesis, ribosomal protein, protein transport, and signal recognition particle, suggesting that the clone encodes a protein synthesis and/or transport-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest translation-relating protein, ubiquitin-relating protein, or ribosomal protein, for example, translation initiation factor SUI1, ubiquitin family, or ribosomal protein L16.

A clone predicted to belong to the category of cellular defense-related protein means a clone having hit data in a homology search with some annotation, such as heat shock, DNA repair, and DNA damage, suggesting that the clone encodes a cellular defense-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest chaperonin or DNA repair protein, for example, HSP90 protein or DNA mismatch repair protein.

A clone predicted to belong to the category of development and/or differentiation-related proteins means a clone having hit data in a homology search with some annotation, such as developmental protein, suggesting that the clone encodes a development and/or differentiation-related protein; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest organogenesis-relating protein, for example, floricaula/leafy protein.

A clone predicted to belong to the category of DNA- and/or RNA-binding protein means a clone having hit data in a homology search with some annotation, such as DNA-binding, RNA-binding, and such; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest DNA/RNA-relating enzyme group including transcription factor and DNA ligase or Zinc-finger relating protein, for example, transcription factor WhiB, B-box zinc finger, or tRNA synthetases class I (C).

A clone predicted to belong to the category of ATP- and/or GTP-binding protein means a clone having hit data in a homology

search with some annotation, such as ATP-binding, GTP-binding, and such; or a clone in which the results of a domain/motif search with Pfam suggest the presence of domains and motifs that suggest ATP/GTP-relating enzyme group including ATPase or G protein, for example, E1-E2 ATPase or Ras family.

It is possible to perform functional analysis of a protein involved in a disease as described above. It is also possible to analyze correlation between a protein's expression or activity and a certain disease by using a specific antibody obtained by using the expressed protein. Alternatively, it is possible to utilize the OMIM database, which is a database of human genes and diseases, to analyze the protein. New information is constantly being deposited into this database. Therefore, it is possible that one skilled in the art will find a new relationship between a particular disease and a gene of the present invention by using the most up-to-date database. Proteins involved in diseases are useful for developing diagnostic markers or medicines for regulation of their expression and activity, or as gene therapy targets.

The proteins may have a variety of functions, including but not limited to the above 14 categories, such as secretory proteins, membrane proteins, signal transduction-related proteins, glycoprotein-related proteins, or transcription-related proteins. When searching OMIM using these keywords, the proteins are revealed to be involved in a great number of diseases (the results of the OMIM search for secretory and membrane proteins are shown below as an Example). Associations between proteins related to signal transduction or transcription and diseases are reported in "Transcription Factor Research-1999" (Fujii, Tamura, Morohashi, Kageyama, and Satake edit, (1999) Jikken-Igaku Zoukan, Vol.17, No.3), and "Gene Medicine" (1999) Vol.3, No.2). As another example and as described in "Biology of Cancer", many proteins are involved in cancers, including enzymes and/or metabolism-related proteins, cytoskeleton-related proteins, cell division and/or cell proliferation-related proteins as well as secretory proteins,

membrane proteins, signal transduction-related proteins, glycoprotein-related proteins, transcription-related proteins, (S. Matsubara, 1992) of Life Science series (Shokabo). As the above example clearly demonstrates, not only disease-related proteins but also secretory proteins, membrane proteins, signal transduction-related proteins, glycoprotein-related proteins, and transcription-related proteins are often involved in diseases, and thus such proteins can be useful targets in the field of medical industry.

The results of the OMIM search for secretory and membrane proteins are shown below. The keywords used were:

- (1) secretion protein,
- (2) membrane protein,
- (3) channel, and
- (4) extracellular matrix.

Only the OMIM accession numbers are shown in the search results. The first 50 accession numbers displayed in the search results are provided. Using this number, data showing the relationship between a disease and a gene or protein can be seen. OMIM data is renewed daily.

1) Secretion protein

When searching under these keywords, 436 genes were registered as being associated with disease. The OMIM numbers for 50 of these genes are as follows.

*604667, *104760, *176860, *139320, *118910, *151675, *107400,
 *604029, #200100, *177061, *600946, *601693, *139250, *176880,
 *600998, *603850, *605083, *147572, *179513, *606055, *604028,
 *125950, *157147, *246700, *602926, *600560, *602421, *603215,
 185860, *600174, *179512, *109270, *179511, *179510, *179509,
 *601146, *604710, *177020, *138120, *170280, *600626, *164160,
 *168470, *154545, *603831, *601652, *104311, *601489, *603062,
 *102720

2) Membrane protein

When searching under these keywords, 1873 genes were registered as being associated with disease. The OMIM numbers for 50 of these genes are as follows.

5 *130500, *605704, *305360, *153330, *109270, *173610, *170995,
 *120920, *170993, *309060, *104776, *602333, *605703, *602690,
 *605943, *159430, *600897, *606867, *133090, *601178, *602413,
 *602003, *604405, *605940, *603237, *109280, *606958, *600378,
 *606959, *602173, *107776, *602334, *125305, *602335, *309845,
 *601134, *605731, *606795, *185881, *607178, *603177, *154045,
 10 *603214, *603718, *606909, *600594, *603241, *606629, *603657,
 *600182

3) Channel (member of membrane proteins)

15 When searching under these keywords, 449 genes were registered as being associated with disease. The OMIM numbers for 50 of these genes are as follows.

*176266, *600724, *605427, *182390, *123825, *114208, *114206,
 *114205, *176267, *600053, *601784, *603749, *182392, *600937,
 *603415, *114204, *114209, *114207, *607370, *604528, *604527,
 20 *601011, *600760, *192500, *118425, *600228, *600359, *176261,
 *602235, *600761, *182389, *300008, *600877, *605692, *300338,
 *602232, *603537, *182391, *176263, *602343, *601328, *605874,
 *604385, *603939, *602208, *601534, *601958, *603220, *600504,
 *607368

25

4) Extracellular matrix

When searching under these keywords, 267 genes were registered as being associated with disease. The OMIM numbers for 50 of these genes are as follows.

30 *605912, *602201, *603479, *604633, *601418, *601548, *115437,
 *154870, *120361, *602285, *600754, *602262, *134797, *602261,
 *603320, *603321, *604871, *604629, *601807, #154700, *128239,
 *600310, *605470, *185250, *178990, *603767, *120360, *185261,
 *116935, *607056, *253700, *190180, *600985, *188826, *193300,
 35 *276901, *308700, *120150, *602109, *120324, *600514, #177170,

#247100, #116920, #200610, *605127, *601313, *601652, *120180, *154790

In addition to these, various keywords shown in the above-mentioned categorizations or others can be used in an OMIM search to reveal involvement in disease.

Further, the use of nucleotide sequences of cDNAs of the present invention enables the expression frequency of genes corresponding to those cDNAs to be analyzed. Gene function can be predicted based on information obtained by expression frequency analysis.

There are several methods for analyzing the expression level of genes involved in disease. Differences in gene expression levels between diseased and normal tissues can be studied by analytical methods using, for example, Northern blotting, RT-PCR, DNA microarrays, etc. (Experimental Medicine, Vol.17, No. 8, 980-1056 (1999); Cell Engineering (additional volume) DNA Microarray and Advanced PCR Methods, Muramatsu & Nawa (eds.), Shujunsha (2000)). In addition to these analysis methods, computer analysis can be used to compare the nucleotide sequences of expressed genes, and hence to analyze expression frequency. For example, in the "BODYMAP" database, gene clones are randomly extracted from cDNA libraries of various tissues and/or cells, clones homologous to each other are assigned to a single cluster based on 3'-end nucleotide sequence homology information, genes are then classified into clusters, and the number of clones in each cluster is compared to gain information on expression frequency (<http://bodymap.ims.u-tokyo.ac.jp/>).

When these analytical methods result in observation of an explicit difference between gene expression levels in diseased tissues and normal tissues, it can be concluded that the gene is closely involved in the disease or disorder. When gene expression is explicitly different between normal cells and cells reproducing specific disease-associated features, even if they are not diseased tissues, it can be concluded that the gene is closely involved in a disease or disorder.

Of the 2,495 clones whose full-length nucleotide sequences were revealed, genes involved in a particular pathology or function were selected using the database shown below (see Example 7; "Expression frequency analysis *in silico*"). The database used in the analyses of the present invention contains the nucleotide sequences of 1,402,069 clones, a sufficiently large population for analysis. Sequence information in the database was obtained by randomly selecting cDNA clones from cDNA libraries derived from the various tissues and cells shown in Example 1, and determining the 5'-end sequences thereof.

The nucleotide sequence of each clone in this database was then categorized (clustered) based on nucleotide sequence homology determined with a search program. The number of clones belonging to each cluster of each library was determined and normalized; and the ratio of a certain gene in a cDNA library was determined. This analysis provided information on the expression frequency of a gene in the tissue or cell that was the source of the cDNA library.

In order to analyze the expression of genes corresponding to the nucleotide sequences of cDNAs of the present invention in tissues and cells, the libraries from the tissues or cells, which had been used in large-scale cDNA analyses, were taken as subjects for comparison of expression levels between different tissues or cells. Namely, expression frequency was analyzed by comparing the previously normalized values between tissues or cells from which were derived the 600 or more cDNA clones whose nucleotide sequences had been analyzed. This analysis showed that the cDNA clones corresponded to the genes involved in the pathologies and functions indicated below. Each value in Tables 2 to 24 indicated below represents a relative expression frequency; a higher value indicates a higher expression level. Genes included in these Tables do not indicate such a big difference between compared libraries, but when compared with other tissue- or gene-derived libraries based on Example 9, they indicate a significant difference. Thus, these genes are specific to a tissue or cell, and can be considered useful

diagnostic markers for disease, as well as useful for analyzing molecular mechanisms.

Osteoporosis-related genes

5 Osteoporosis is a pathology in which bones are easily broken owing to an overall decrease in bone components. The onset involves the balance between the functions of osteoblast producing bone and osteoclast absorbing bone, namely bone metabolism. Genes involved in the increase of osteoclasts
10 differentiating from precursor cells of monocyte/macrophage line (Molecular Medicine 38. 642-648. (2001)) are thus genes involved in osteoporosis relevant to bone metabolism.

Nucleotide sequence-based analysis was carried out to identify genes whose expression frequencies were higher or lower
15 in CD34+ cells (cells expressing glycoprotein CD34) treated with osteoclast differentiation factor (Molecular Medicine 38. 642-648. (2001)), compared to untreated CD34+ cells, which are precursor cells in monocyte/macrophage lines. The result of comparative analysis of frequency between the cDNA libraries
20 prepared from the RNA of CD34+ cells (CD34C), and from the RNA of CD34+ cells treated with the osteoclast differentiation factor (D30ST, D60ST or D90ST) (Table 2), showed that the genes whose expression levels differed between the two were 15 and two clones indicated below.

25 BRACE3013780, BRAMY2047420, BRSTN2016470, CTONG3008894, D3OST2002182, D3OST2002648, D3OST3000169, PEBLM2005183, PUAEN2009655, TESTI4000014, TESTI4010851, TRACH2023299, TRACH2025535, TRACH3001427, UTERU2006137
HCHON2000508, TESTI2015626

30 These clones are involved in osteoporosis.

Genes involved in neural cell differentiation

Genes involved in neural cell differentiation are useful for treating neurological disease. Genes with varying
35 expression levels in response to induction of cellular

differentiation in neural cells are thought to be involved in neurological disease.

A survey was performed for genes whose expression levels varied in response to induction of differentiation (stimulation by retinoic acid (RA) or growth inhibitor treatment after RA stimulation) in cultured cells of a neural strain, NT2. The result of comparative analysis of cDNA libraries derived from undifferentiated NT2 cells (NT2RM) and cells subjected to differentiation treatment (NT2RP, NT2RI or NT2NE) (Table 3) showed that the genes whose expression levels differed between the two were 174 and 30 clones indicated below.

BNGH42007788, BRACE1000186, BRACE2006319, BRACE2014306,
BRACE2015058, BRACE2044286, BRACE3010428, BRAMY2044078,
BRAWH2014645, BRAWH2014662, BRAWH3002574, BRAWH3003992,
BRAWH3005981, BRAWH3007592, BRCAN2009432, BRCAN2016619,
BRCAN2028355, BRHIP2001074, BRHIP2007741, BRHIP2014228,
BRHIP2024146, BRHIP3007586, BRHIP3018797, BRTHA2003461,
BRTHA3000633, BRTHA3003490, COLON2001721, CTONG1000087,
CTONG2008233, CTONG2020638, CTONG2028124, CTONG3003905,
CTONG3008894, CTONG3009028, CTONG3009239, DFNES2011499,
FCBBF3001977, FEBRA1000030, FEBRA2006396, FEBRA2007801,
HCHON2000028, HCHON2000244, HCHON2001084, HCHON2001217,
HCHON2001548, HCHON2006250, HEART1000074, HHDPC1000118,
HSYRA2009075, IMR322000127, IMR322001380, KIDNE2000665,
KIDNE2002252, MESAN2006563, MESAN2012054, MESAN2015515,
NT2NE2003252, NT2NE2005890, NT2NE2006531, NT2NE2006909,
NT2NE2008060, NT2RI2003993, NT2RI2004618, NT2RI2005166,
NT2RI2006686, NT2RI2008724, NT2RI2009855, NT2RI2011422,
NT2RI2011683, NT2RI2012659, NT2RI2012990, NT2RI2013357,
NT2RI2014247, NT2RI2014551, NT2RI2014733, NT2RI2016128,
NT2RI2018311, NT2RI2018883, NT2RI2019751, NT2RI2023303,
NT2RI2025909, NT2RI2025957, NT2RI2027081, NT2RI2027396,
NT2RI3000622, NT2RI3001263, NT2RI3001515, NT2RI3002303,
NT2RI3002842, NT2RI3002892, NT2RI3003031, NT2RI3003095,
NT2RI3003162, NT2RI3003382, NT2RI3003409, NT2RI3004381,
NT2RI3004510, NT2RI3005202, NT2RI3005403, NT2RI3005724,

NT2RI3006132, NT2RI3006171, NT2RI3006284, NT2RI3006340,
 NT2RI3006376, NT2RI3006673, NT2RI3006796, NT2RI3007065,
 NT2RI3007158, NT2RI3007291, NT2RI3007543, NT2RI3007757,
 NT2RI3007978, NT2RI3008055, NT2RI3008162, NT2RI3008652,
 5 NT2RI3008697, NT2RI3008974, NT2RI3009158, NT2RP7000359,
 NT2RP7000466, NT2RP7004027, NT2RP7004123, NT2RP7005118,
 NT2RP7005529, NT2RP7005846, NT2RP7009030, NT2RP7009147,
 NT2RP7009867, NT2RP7010128, NT2RP7010599, NT2RP7011570,
 NT2RP7013795, NT2RP7014005, NT2RP7015512, NT2RP7017365,
 10 NT2RP7017474, NT2RP7017546, NT2RP8000137, NT2RP8000296,
 NT2RP8000483, NTONG2005969, OCBBF2007028, OCBBF2037068,
 PLACE7000514, PUAEN2007044, SPLEN2002467, SPLEN2006122,
 SPLEN2028914, SPLEN2031547, SYNOV4002346, SYNOV4007671,
 SYNOV4008440, TESOP2002273, TESTI2003573, TESTI4000014,
 15 TESTI4009286, TESTI4010851, TESTI4012702, TESTI4029671,
 TESTI4037156, THYMU3000133, TRACH1000205, TRACH2005811,
 TRACH2007834, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004721, TRACH3008093, TRACH3008535, TRACH3008713,
 UTERU2002410, UTERU2023175
 20 ADRGL2000042, BRACE2003609, BRACE3003026, BRHIP3000017,
 CTONG2020411, FCBBF1000509, FCBBF3027854, FEBRA2028516,
 HCHON2000508, IMR322001879, NT2RI2005772, NT2RI2008952,
 NT2RI2009583, NT2RI2018448, NT2RI2027157, NT2RI3000174,
 NT2RI3001132, NT2RI3002557, NT2RI3005928, NT2RI3007167,
 25 NT2RI3007443, NT2RP7008435, NT2RP8000521, OCBBF2006987,
 PERIC2007068, TESTI2015626, TESTI4015442, TLIVE2002046,
 TRACH3000134, TUTER2000057

These genes are neurological disease-related genes.

30 Genes involved in Alzheimer's disease

Alzheimer's disease is a cranial neurological disease
 characterized by memory loss. As the disease advances, patients
 can no longer support themselves and require nursing.
 Alzheimer's disease eventually leads to brain atrophication.

35 Environmental factors such as stress, and vascular factors such
 as hypertension and cholesterolemia, are assumed but not

confirmed to contribute to the onset of Alzheimer's disease. Genes whose expression levels differ between normal brain tissues and tissues affected with Alzheimer's disease are expected to be involved in Alzheimer's disease. Such genes can
 5 be used to elucidate the disease's onset mechanism and in genetic diagnosis. cDNA libraries derived from the cerebral cortex of Alzheimer patients (BRALZ and BRASW) and a library derived from the whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 4). Genes whose expression levels
 10 differed between the two were the 250 clones and 41 clones listed below.

ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 BRACE1000533, BRACE2005457, BRACE2010489, BRACE2014657,
 BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,
 15 BRACE3003192, BRACE3005499, BRACE3007480, BRACE3009237,
 BRACE3009724, BRACE3009747, BRACE3010428, BRACE3011271,
 BRACE3011421, BRACE3012364, BRACE3022769, BRACE3026735,
 BRACE3031838, BRALZ2011796, BRALZ2012183, BRALZ2012848,
 BRALZ2014484, BRALZ2016085, BRALZ2016498, BRALZ2017359,
 20 BRAMY2003008, BRAMY2005052, BRAMY2019300, BRAMY2019963,
 BRAMY2036567, BRAMY2037823, BRAMY2040592, BRAMY3002803,
 BRAMY3004224, BRAMY3005091, BRASW1000053, BRASW1000125,
 BRAWH1000127, BRAWH2001395, BRAWH2001671, BRAWH2001940,
 BRAWH2001973, BRAWH2002560, BRAWH2002761, BRAWH2005315,
 25 BRAWH2007658, BRAWH2010000, BRAWH2010084, BRAWH2010536,
 BRAWH2012162, BRAWH2012326, BRAWH2013294, BRAWH2013871,
 BRAWH2014414, BRAWH2014645, BRAWH2014662, BRAWH2014876,
 BRAWH2014954, BRAWH2016221, BRAWH2016439, BRAWH2016702,
 BRAWH2016724, BRAWH3000078, BRAWH3000100, BRAWH3000314,
 30 BRAWH3000491, BRAWH3001326, BRAWH3001475, BRAWH3001891,
 BRAWH3002574, BRAWH3002600, BRAWH3002819, BRAWH3002821,
 BRAWH3003522, BRAWH3003555, BRAWH3003727, BRAWH3003801,
 BRAWH3003992, BRAWH3004453, BRAWH3004666, BRAWH3005132,
 BRAWH3005422, BRAWH3005912, BRAWH3005981, BRAWH3006548,
 35 BRAWH3006792, BRAWH3007221, BRAWH3007506, BRAWH3007592,
 BRAWH3007726, BRAWH3007783, BRAWH3008341, BRAWH3008697,

BRAWH3008931, BRAWH3009297, BRCOC2003213, BRCOC2014033,
 BRCOC2020142, BRHIP2000920, BRHIP2005719, BRHIP2007741,
 BRHIP2014228, BRHIP2024146, BRHIP2026288, BRHIP3000339,
 BRHIP3006683, BRHIP3007586, BRHIP3008405, BRHIP3018797,
 5 BRSSN2000684, BRSSN2011738, BRSSN2014299, BRSTN2008052,
 BRSTN2015015, BRSTN2016470, BRTHA1000311, BRTHA2008335,
 BRTHA3002427, BRTHA3003490, BRTHA3008520, BRTHA3017848,
 COLON2001721, CTONG2017500, CTONG2028124, CTONG3000657,
 CTONG3001123, CTONG3009328, FCBBF2001183, FCBBF3001977,
 10 FEBRA2007544, FEBRA2007801, FEBRA2020886, FEBRA2028618,
 HCASM2007047, HCHON2000244, HCHON2000626, HCHON2001217,
 HCHON2002676, HCHON2006250, HEART1000074, HHDP1000118,
 HLUNG2002465, IMR322000127, IMR322001380, IMR322002035,
 KIDNE2006580, MESAN2006563, MESAN2012054, MESTC1000042,
 15 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 NT2RI2014733, NT2RI3002892, NT2RI3006284, NT2RI3006673,
 NT2RI3007543, NT2RI3008055, NT2RP7005529, NT2RP7009147,
 NT2RP7014005, NT2RP7017474, NTONG2005969, OCBBF2001794,
 OCBBF2006005, OCBBF2006764, OCBBF2007028, OCBBF2007114,
 20 OCBBF2010140, OCBBF2021286, OCBBF2023162, OCBBF2024850,
 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SMINT2001818,
 SPLEN2028914, SPLEN2031424, SPLEN2031547, SPLEN2034781,
 25 SPLEN2036932, SYNOV2014400, SYNOV4002346, SYNOV4002883,
 SYNOV4007430, SYNOV4007671, SYNOV4008440, TESOP2002273,
 TESOP2002451, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4006137, TESTI4008797, TESTI4009286, TESTI4010851,
 TESTI4013817, TESTI4014694, TESTI4021478, TESTI4022936,
 30 TESTI4024420, TESTI4027821, THYMU2001090, THYMU2033308,
 THYMU2035735, THYMU2039315, THYMU3001234, THYMU3008171,
 TKIDN2009641, TKIDN2009889, TKIDN2015788, TRACH1000205,
 TRACH2001549, TRACH2005811, TRACH2006049, TRACH2007834,
 TRACH2008300, TRACH2025535, TRACH3001427, TRACH3002192,
 35 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3007479,
 TRACH3008093, TRACH3009455, UTERU2005621, UTERU2006115,

UTERU2019706, UTERU2023039, UTERU2026203, UTERU3005230,
 UTERU3007640, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRALZ2017844,
 BRAMY3004800, BRAWH1000369, BRAWH2006207, BRAWH2006395,
 5 BRAWH2008993, BRAWH2009393, BRAWH2010552, BRAWH3007441,
 BRAWH3009017, BRHIP2005271, BRHIP3000017, BRHIP3026052,
 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000743, IMR322001879, NT2RI2009583,
 10 OCBBF2008144, PERIC2007068, PUAEN2006335, SPLEN2039379,
 TESTI4001984, TESTI4008058, TESTI4025268, TESTI4032090,
 THYMU3000360, TLIVE2002046, TRACH3000134, UTERU2021820,
 UTERU2028734

These genes are involved in Alzheimer's disease.

15

Genes involved in Parkinson's disease

Parkinson's disease is a cranial neurological disease
 characterized by impaired production of the neurotransmitter
 dopamine in the substantia nigra in the brain. This results in
 20 dyskinesia, such as hand tremors, and impaired body movement due
 to muscular rigidity. Normally, the number of brain neurons
 gradually decreases with age. However, compared to healthy
 people, patients with Parkinson's disease experience a rapid and
 marked decrease in the number of neurons in their substantia
 25 nigra. Genes whose expression levels differ between tissues of
 the whole brain and the nigra are expected to be involved in
 Parkinson's disease. These genes exhibit nigra-specific
 alterations in their expression levels, and can be used to
 elucidate the disease onset mechanism and in gene diagnosis.
 30 cDNA libraries derived from the substantia nigra (BRSSN) and a
 library derived from whole tissues of a normal brain (BRAWH)
 were analyzed and compared (Table 5). Genes whose expression
 levels differed between the two were the 250 clones and 40
 clones listed below.
 35 ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 BRACE1000533, BRACE2005457, BRACE2010489, BRACE2014657,

BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,
BRACE3003192, BRACE3005499, BRACE3007480, BRACE3009237,
BRACE3009724, BRACE3009747, BRACE3010428, BRACE3011271,
BRACE3011421, BRACE3012364, BRACE3013780, BRACE3022769,
5 BRACE3026735, BRACE3031838, BRALZ2011796, BRAMY2003008,
BRAMY2005052, BRAMY2019300, BRAMY2019963, BRAMY2036567,
BRAMY2037823, BRAMY2040592, BRAMY2047420, BRAMY3002803,
BRAMY3004224, BRAMY3005091, BRAWH1000127, BRAWH2001395,
BRAWH2001671, BRAWH2001940, BRAWH2001973, BRAWH2002560,
10 BRAWH2002761, BRAWH2005315, BRAWH2007658, BRAWH2010000,
BRAWH2010084, BRAWH2010536, BRAWH2012162, BRAWH2012326,
BRAWH2013294, BRAWH2013871, BRAWH2014414, BRAWH2014645,
BRAWH2014662, BRAWH2014876, BRAWH2014954, BRAWH2016221,
BRAWH2016439, BRAWH2016702, BRAWH2016724, BRAWH3000078,
15 BRAWH3000100, BRAWH3000314, BRAWH3000491, BRAWH3001326,
BRAWH3001475, BRAWH3001891, BRAWH3002574, BRAWH3002600,
BRAWH3002819, BRAWH3002821, BRAWH3003522, BRAWH3003555,
BRAWH3003727, BRAWH3003801, BRAWH3003992, BRAWH3004453,
BRAWH3004666, BRAWH3005132, BRAWH3005422, BRAWH3005912,
20 BRAWH3005981, BRAWH3006548, BRAWH3006792, BRAWH3007221,
BRAWH3007506, BRAWH3007592, BRAWH3007726, BRAWH3007783,
BRAWH3008341, BRAWH3008697, BRAWH3008931, BRAWH3009297,
BRCOC2003213, BRCOC2014033, BRCOC2020142, BRHIP2000920,
BRHIP2005719, BRHIP2007741, BRHIP2014228, BRHIP2024146,
25 BRHIP3000339, BRHIP3006683, BRHIP3007586, BRHIP3008405,
BRHIP3018797, BRSSN2000684, BRSSN2003086, BRSSN2004496,
BRSSN2004719, BRSSN2006892, BRSSN2008549, BRSSN2008797,
BRSSN2011262, BRSSN2011738, BRSSN2013874, BRSSN2014299,
BRSSN2014424, BRSSN2014556, BRSSN2018581, BRSSN2018925,
30 BRSTN2008052, BRSTN2015015, BRSTN2016470, BRTHA1000311,
BRTHA2003461, BRTHA2008335, BRTHA3002427, BRTHA3003490,
BRTHA3008520, BRTHA3017848, COLON2001721, CTONG2017500,
CTONG2028124, CTONG3000657, CTONG3001123, CTONG3009328,
FCBBF2001183, FCBBF3001977, FEBRA2007544, FEBRA2007801,
35 FEBRA2020886, FEBRA2024136, FEBRA2025427, FEBRA2028618,
HCASM2007047, HCHON2000244, HCHON2000626, HCHON2001217,

HCHON2002676, HCHON2006250, HEART1000074, HHDP1000118,
 HLUNG2002465, IMR322000127, IMR322002035, KIDNE2006580,
 MESAN2006563, MESAN2012054, MESTC1000042, NOVAR2001783,
 NT2NE2006909, NT2RI2008724, NT2RI2012659, NT2RI2014733,
 5 NT2RI3002892, NT2RI3006284, NT2RI3006673, NT2RI3007543,
 NT2RI3008055, NT2RP7005529, NT2RP7009147, NT2RP7014005,
 NT2RP7017474, OCBBF2001794, OCBBF2006005, OCBBF2006764,
 OCBBF2007028, OCBBF2010140, OCBBF2021286, OCBBF2024850,
 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 10 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2028914,
 SPLEN2031424, SPLEN2031547, SPLEN2034781, SPLEN2036932,
 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4008440, TESOP2002451, TESTI4000014, TESTI4000209,
 15 TESTI4001100, TESTI4006137, TESTI4008797, TESTI4009286,
 TESTI4010851, TESTI4013817, TESTI4014694, TESTI4021478,
 TESTI4022936, TESTI4024420, TESTI4027821, TESTI4037156,
 THYMU2001090, THYMU2033308, THYMU2035735, THYMU2039315,
 THYMU3001234, THYMU3008171, TKIDN2009641, TKIDN2009889,
 20 TKIDN2015788, TRACH1000205, TRACH2001549, TRACH2005811,
 TRACH2006049, TRACH2007834, TRACH2008300, TRACH2025535,
 TRACH3001427, TRACH3002192, TRACH3004721, TRACH3005294,
 TRACH3007479, TRACH3008093, TRACH3009455, UTERU2006115,
 UTERU2019706, UTERU2023039, UTERU2026203, UTERU3005230,
 25 UTERU3007640, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRHIP2005271, BRHIP3000017, BRTHA2018443, BRTHA3003000,
 30 CTONG2020374, CTONG2020378, CTONG2024031, FCBBF1000509,
 FEBRA2001990, FEBRA2006519, FEBRA2028516, HCHON2000743,
 IMR322001879, NT2RI2009583, OCBBF2008144, PERIC2007068,
 PUAEN2006335, SPLEN2039379, TESTI2015626, TESTI4001984,
 TESTI4008058, TESTI4025268, TESTI4032090, THYMU3000360,
 35 TLIVE2002046, TRACH3000134, UTERU2021820, UTERU2028734

These genes are involved in Parkinson's disease.

Genes involved in short-term memory and dementia

In the brain, the hippocampus is a highly important memory-related area. The hippocampus functions to establish a memory by judging whether acquired information is necessary, and then accumulating the memory in another area of the brain. According to clinical findings, patients can retain a new memory for only about five minutes with an abnormal, or at worst without a hippocampus. Some dementia patients are presumed to have hippocampus abnormalities. Thus, genes whose expression levels differ between tissues of the whole brain and the hippocampus are expected to be involved in memory or dementia. Such genes can be used to elucidate the mechanism underlying memory, and in gene diagnosis. cDNA libraries derived from the hippocampus (BRHIP) and from the whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 6). Genes whose expression levels differed between the two were the 370 clones and 59 clones listed below.

ASTRO1000009, BLADE2001371, BLADE2008398, BNGH42007788,
 BRACE1000186, BRACE1000258, BRACE1000533, BRACE2005457,
 BRACE2010489, BRACE2014657, BRACE2015058, BRACE2018762,
 BRACE2030341, BRACE2035381, BRACE2044286, BRACE2045954,
 BRACE3000787, BRACE3003192, BRACE3005499, BRACE3007480,
 BRACE3009237, BRACE3009724, BRACE3009747, BRACE3010428,
 BRACE3011271, BRACE3011421, BRACE3012364, BRACE3018963,
 BRACE3022769, BRACE3026735, BRACE3031838, BRALZ2011796,
 BRAMY2003008, BRAMY2005052, BRAMY2019300, BRAMY2019963,
 BRAMY2031317, BRAMY2036567, BRAMY2037823, BRAMY2040592,
 BRAMY2044078, BRAMY3002803, BRAMY3004224, BRAMY3005091,
 BRAWH1000127, BRAWH2001395, BRAWH2001671,
 BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,
 BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
 BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
 BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
 BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,

BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
5 BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,
BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2020710,
BRCAN2028355, BRCOC2003213, BRCOC2014033, BRCOC2020142,
10 BRHIP2000691, BRHIP2000819, BRHIP2000826, BRHIP2000920,
BRHIP2001074, BRHIP2001805, BRHIP2001927, BRHIP2002122,
BRHIP2002172, BRHIP2002346, BRHIP2003242, BRHIP2003786,
BRHIP2003917, BRHIP2004312, BRHIP2004359, BRHIP2004814,
BRHIP2004883, BRHIP2005236, BRHIP2005354, BRHIP2005600,
15 BRHIP2005719, BRHIP2005752, BRHIP2005932, BRHIP2006800,
BRHIP2007616, BRHIP2007741, BRHIP2009340, BRHIP2009414,
BRHIP2009474, BRHIP2013699, BRHIP2014228, BRHIP2021615,
BRHIP2022221, BRHIP2024146, BRHIP2024165, BRHIP2026061,
BRHIP2026288, BRHIP2029176, BRHIP2029393, BRHIP3000339,
20 BRHIP3000526, BRHIP3001283, BRHIP3006683, BRHIP3007483,
BRHIP3007586, BRHIP3008183, BRHIP3008313, BRHIP3008344,
BRHIP3008405, BRHIP3008565, BRHIP3008598, BRHIP3008997,
BRHIP3009099, BRHIP3009448, BRHIP3011241, BRHIP3013765,
BRHIP3013897, BRHIP3015751, BRHIP3016213, BRHIP3018797,
25 BRHIP3020182, BRHIP3024118, BRHIP3024533, BRHIP3024725,
BRHIP3025161, BRHIP3025702, BRHIP3026097, BRHIP3027137,
BRHIP3027854, BRSSN2000684, BRSSN2004719, BRSSN2008549,
BRSSN2011738, BRSSN2014299, BRSTN2008052, BRSTN2015015,
BRSTN2016470, BRSTN2018083, BRTHA1000311, BRTHA2002442,
30 BRTHA2008335, BRTHA3000297, BRTHA3001721, BRTHA3002427,
BRTHA3003490, BRTHA3005046, BRTHA3008520, BRTHA3008778,
BRTHA3009090, BRTHA3015910, BRTHA3017848, COLON2001721,
CTONG1000087, CTONG1000088, CTONG1000467, CTONG2000042,
CTONG2008233, CTONG2009423, CTONG2017500, CTONG2019788,
35 CTONG2028124, CTONG3000657, CTONG3001123, CTONG3001370,
CTONG3002412, CTONG3004072, CTONG3008894, CTONG3009239,

CTONG3009328, DFNES2011499, FCBBF2001183, FCBBF3001977,
 FEBRA2000253, FEBRA2007544, FEBRA2007801, FEBRA2008287,
 FEBRA2010719, FEBRA2020886, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000244, HCHON2000626, HCHON2001217,
 5 HCHON2002676, HCHON2005921, HCHON2006250, HEART1000074,
 HEART2007031, HHDPC1000118, HLUNG2002465, HLUNG2003003,
 IMR322000127, IMR322001380, IMR322002035, KIDNE2005543,
 KIDNE2006580, MESAN2006563, MESAN2012054, MESTC1000042,
 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 10 NT2RI2014733, NT2RI2018311, NT2RI3001515, NT2RI3002892,
 NT2RI3004510, NT2RI3005724, NT2RI3006284, NT2RI3006673,
 NT2RI3007291, NT2RI3007543, NT2RI3008055, NT2RP7005529,
 NT2RP7009147, NT2RP7014005, NT2RP7017474, OCBBF2001794,
 OCBBF2003819, OCBBF2006005, OCBBF2006151, OCBBF2006764,
 15 OCBBF2007028, OCBBF2007068, OCBBF2010140, OCBBF2020741,
 OCBBF2021286, OCBBF2024719, OCBBF2024850, OCBBF2028935,
 OCBBF2036743, OCBBF2038317, OCBBF3000296, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2010912,
 20 SPLEN2012624, SPLEN2028914, SPLEN2031424, SPLEN2031547,
 SPLEN2034781, SPLEN2036932, SYNOV2014400, SYNOV4002346,
 SYNOV4002883, SYNOV4007430, SYNOV4008440, TESOP2002451,
 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4006137, TESTI4008797, TESTI4009286, TESTI4010377,
 25 TESTI4010851, TESTI4010928, TESTI4011161, TESTI4013817,
 TESTI4014159, TESTI4014694, TESTI4014818, TESTI4021478,
 TESTI4022936, TESTI4024420, TESTI4027821, TESTI4037156,
 THYMU2001090, THYMU2023967, THYMU2025707, THYMU2031341,
 THYMU2033308, THYMU2035735, THYMU2037226, THYMU2039315,
 30 THYMU3001234, THYMU3001379, THYMU3004835, THYMU3007137,
 THYMU3008171, TKIDN2009641, TKIDN2009889, TKIDN2015788,
 TRACH1000205, TRACH2001549, TRACH2005811, TRACH2006049,
 TRACH2007834, TRACH2008300, TRACH2025535, TRACH3000014,
 TRACH3001427, TRACH3002192, TRACH3004721, TRACH3005294,
 35 TRACH3007479, TRACH3008093, TRACH3009455, TUTER1000122,
 TUTER2000904, UTERU2004929, UTERU2006115, UTERU2019706,

UTERU2021163, UTERU2023039, UTERU2026203, UTERU2030213,
 UTERU3001572, UTERU3003135, UTERU3005230, UTERU3007640,
 UTERU3009259, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 5 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRHIP2002722, BRHIP2003272, BRHIP2005271, BRHIP2005724,
 BRHIP2006617, BRHIP2008389, BRHIP2012360, BRHIP2017553,
 BRHIP2026877, BRHIP3000017, BRHIP3000240, BRHIP3008314,
 10 BRHIP3026052, BRTHA2018443, BRTHA3003000, CTONG2020374,
 CTONG2020378, CTONG2024031, CTONG3004726, FCBBF1000509,
 FEBRA2001990, FEBRA2006519, FEBRA2028516, HCHON2000743,
 IMR322001879, NT2RI2009583, OCBBF2006987, OCBBF2008144,
 OCBBF2030116, PERIC2007068, PUAEN2006335, SPLEN2039379,
 15 TESTI2015626, TESTI4000214, TESTI4001984, TESTI4008058,
 TESTI4013894, TESTI4025268, TESTI4025547, TESTI4026207,
 TESTI4032090, THYMU3000360, TLIVE2002046, TRACH3000134,
 UTERU2008040, UTERU2021820, UTERU2028734

These genes are involved in memory and dementia.

20

Genes involved in equilibrium sense and movement function

The cerebellum is the center of equilibrium sense, muscular
 movement, and motor learning. This area is thought to be
 involved in motor control, and smooth movements are achieved
 25 unconsciously due to cerebellum action. Recent studies have
 elucidated that the cerebellum participates in not only simple
 movements but also in establishing higher-order movements such
 as reading and writing. Thus, genes whose expression levels
 differ between tissues of the whole brain and the cerebellum are
 30 expected to be involved in equilibrium sense or motor function,
 which can be useful for elucidating the molecular mechanism
 controlled by the brain. cDNA libraries derived from the
 cerebellum (BRACE) and from the whole tissues of a normal brain
 (BRAWH) were analyzed and compared (Table 7). Genes whose
 35 expression levels differed between the two were the 488 clones
 and 66 clones listed below.

ADRGL2009146, ADRGL2012038, ASTRO1000009, ASTRO2003960,
BLADE1000176, BLADE2004089, BLADE2008398, BRACE1000186,
BRACE1000258, BRACE1000533, BRACE1000572, BRACE2003639,
BRACE2005457, BRACE2006319, BRACE2008594, BRACE2010489,
5 BRACE2011747, BRACE2014306, BRACE2014475, BRACE2014657,
BRACE2015058, BRACE2015314, BRACE2016981, BRACE2018762,
BRACE2024627, BRACE2026836, BRACE2027258, BRACE2027970,
BRACE2028970, BRACE2029112, BRACE2029849, BRACE2030326,
BRACE2030341, BRACE2030884, BRACE2031154, BRACE2031389,
10 BRACE2031527, BRACE2031531, BRACE2031899, BRACE2032044,
BRACE2032329, BRACE2032385, BRACE2032538, BRACE2032823,
BRACE2033720, BRACE2035381, BRACE2035441, BRACE2036005,
BRACE2036096, BRACE2036830, BRACE2036834, BRACE2037847,
BRACE2038114, BRACE2038329, BRACE2038551, BRACE2039249,
15 BRACE2039327, BRACE2039475, BRACE2039734, BRACE2040138,
BRACE2040325, BRACE2041009, BRACE2041200, BRACE2041264,
BRACE2042550, BRACE2043142, BRACE2043248, BRACE2043349,
BRACE2043665, BRACE2044286, BRACE2044816, BRACE2044949,
BRACE2045300, BRACE2045428, BRACE2045596, BRACE2045772,
20 BRACE2045947, BRACE2045954, BRACE2046251, BRACE2046295,
BRACE2047011, BRACE2047350, BRACE2047377, BRACE2047385,
BRACE3000071, BRACE3000697, BRACE3000787, BRACE3000840,
BRACE3000973, BRACE3001002, BRACE3001217, BRACE3001391,
BRACE3001595, BRACE3001754, BRACE3002298, BRACE3002390,
25 BRACE3002508, BRACE3003004, BRACE3003192, BRACE3003595,
BRACE3003698, BRACE3004058, BRACE3004113, BRACE3004150,
BRACE3004358, BRACE3004435, BRACE3004772, BRACE3004783,
BRACE3004843, BRACE3004880, BRACE3005145, BRACE3005225,
BRACE3005430, BRACE3005499, BRACE3006185, BRACE3006226,
30 BRACE3006462, BRACE3006872, BRACE3007322, BRACE3007472,
BRACE3007480, BRACE3007559, BRACE3007625, BRACE3007642,
BRACE3007767, BRACE3008036, BRACE3008092, BRACE3008137,
BRACE3008384, BRACE3008720, BRACE3008772, BRACE3009090,
BRACE3009237, BRACE3009297, BRACE3009377, BRACE3009574,
35 BRACE3009701, BRACE3009708, BRACE3009724, BRACE3009747,
BRACE3010397, BRACE3010428, BRACE3011271, BRACE3011421,

BRACE3011505, BRACE3012364, BRACE3012930, BRACE3013119,
BRACE3013576, BRACE3013740, BRACE3013780, BRACE3014005,
BRACE3014068, BRACE3014231, BRACE3014317, BRACE3014807,
BRACE3015027, BRACE3015121, BRACE3015262, BRACE3015521,
5 BRACE3015894, BRACE3016884, BRACE3018308, BRACE3018963,
BRACE3019055, BRACE3019084, BRACE3020194, BRACE3020286,
BRACE3020594, BRACE3022769, BRACE3023912, BRACE3024073,
BRACE3024659, BRACE3024662, BRACE3025153, BRACE3025457,
BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026075,
10 BRACE3026735, BRACE3027242, BRACE3027326, BRACE3027478,
BRACE3030103, BRACE3031838, BRACE3032983, BRACE3040856,
BRACE3045033, BRALZ2011796, BRAMY2003008, BRAMY2005052,
BRAMY2019300, BRAMY2019963, BRAMY2020058, BRAMY2030098,
BRAMY2031317, BRAMY2036567, BRAMY2037823, BRAMY2039872,
15 BRAMY2040592, BRAMY2044078, BRAMY2047420, BRAMY3002620,
BRAMY3002803, BRAMY3004224, BRAMY3005091, BRAMY3005932,
BRAMY4000229, BRAWH1000127, BRAWH2001395, BRAWH2001671,
BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,
BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
20 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,
BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
25 BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,
30 BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2009432,
BRCAN2010376, BRCAN2015371, BRCAN2020710, BRCOC2003213,
BRCOC2007034, BRCOC2014033, BRCOC2020142, BRHIP2000920,
BRHIP2004359, BRHIP2005719, BRHIP2005752, BRHIP2007741,
35 BRHIP2013699, BRHIP2014228, BRHIP2024146, BRHIP3000339,
BRHIP3006683, BRHIP3007586, BRHIP3008313, BRHIP3008405,

BRHIP3018797, BRSSN2000684, BRSSN2006892, BRSSN2011262,
 BRSSN2011738, BRSSN2014299, BRSTN2008052, BRSTN2010750,
 BRSTN2015015, BRSTN2016470, BRTHA1000311, BRTHA2008335,
 BRTHA2008955, BRTHA2011194, BRTHA3001721, BRTHA3002427,
 5 BRTHA3003490, BRTHA3008520, BRTHA3009090, BRTHA3017848,
 COLON2001721, CTONG2008233, CTONG2017500, CTONG2028124,
 CTONG3000657, CTONG3001123, CTONG3005813, CTONG3008894,
 CTONG3009328, DFNES2011499, FCBBF2001183, FCBBF3001977,
 FEBRA2006396, FEBRA2007544, FEBRA2007708, FEBRA2007801,
 10 FEBRA2008287, FEBRA2020886, FEBRA2021966, FEBRA2026984,
 FEBRA2028618, HCASM2007047, HCHON2000244, HCHON2000626,
 HCHON2001217, HCHON2002676, HCHON2005921, HCHON2006250,
 HEART1000074, HHDPC1000118, HLUNG2002465, IMR322000127,
 IMR322001380, IMR322002035, KIDNE2000665, KIDNE2006580,
 15 MESAN2006563, MESAN2012054, MESTC1000042, NB9N41000340,
 NESOP2001752, NOVAR2001783, NT2NE2006909, NT2RI2005166,
 NT2RI2008724, NT2RI2012659, NT2RI2014733, NT2RI2019751,
 NT2RI3002892, NT2RI3003382, NT2RI3004510, NT2RI3005724,
 NT2RI3006284, NT2RI3006673, NT2RI3007291, NT2RI3007543,
 20 NT2RI3008055, NT2RP7004123, NT2RP7005529, NT2RP7009147,
 NT2RP7010599, NT2RP7014005, NT2RP7017474, NTONG2005969,
 OCBBF2001794, OCBBF2003819, OCBBF2006005, OCBBF2006151,
 OCBBF2006764, OCBBF2007028, OCBBF2010140, OCBBF2020343,
 OCBBF2020741, OCBBF2021286, OCBBF2022351, OCBBF2024850,
 25 OCBBF2025527, OCBBF2028935, OCBBF2036743, OCBBF2038317,
 OCBBF3000483, OCBBF3007516, OCBBF3008230, PEBLM2004666,
 PERIC2000889, PLACE6001185, PUAEN2002489, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2010912,
 SPLEN2012624, SPLEN2027268, SPLEN2028914, SPLEN2031424,
 30 SPLEN2031547, SPLEN2034781, SPLEN2036932, SPLEN2037194,
 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4007671, SYNOV4008440, TESOP2002273, TESOP2002451,
 TESOP2002950, TESTI1000330, TESTI4000014, TESTI4000209,
 TESTI4000349, TESTI4001100, TESTI4001561, TESTI4006137,
 35 TESTI4008797, TESTI4009286, TESTI4010851, TESTI4011161,
 TESTI4013675, TESTI4013817, TESTI4014159, TESTI4014306,

TESTI4014694, TESTI4021478, TESTI4022936, TESTI4024420,
 TESTI4027821, TESTI4037156, TESTI4046819, THYMU2001090,
 THYMU2016523, THYMU2023967, THYMU2030264, THYMU2033308,
 THYMU2035735, THYMU2039315, THYMU2039780, THYMU3001083,
 5 THYMU3001234, THYMU3003309, THYMU3006485, THYMU3008171,
 TKIDN2009641, TKIDN2009889, TKIDN2015788, TRACH1000205,
 TRACH2001549, TRACH2005811, TRACH2006049, TRACH2007834,
 TRACH2008300, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004721, TRACH3005294, TRACH3006038, TRACH3006412,
 10 TRACH3007479, TRACH3008093, TRACH3009455, TUTER2000904,
 UTERU2002410, UTERU2006115, UTERU2007520, UTERU2019706,
 UTERU2023039, UTERU2026203, UTERU3000226, UTERU3001572,
 UTERU3005230, UTERU3005460, UTERU3005970, UTERU3006308,
 UTERU3007419, UTERU3007640, UTERU3007913, UTERU3009871
 15 ADRGL2000042, BLADE2006830, BRACE2002589, BRACE2003609,
 BRACE2009318, BRACE2011677, BRACE2029396, BRACE2037299,
 BRACE2039823, BRACE2039832, BRACE2043105, BRACE3001058,
 BRACE3001113, BRACE3003026, BRACE3003053, BRACE3009127,
 BRACE3010076, BRACE3015829, BRACE3021148, BRAMY3004800,
 20 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRCOC2019841, BRHIP2005271, BRHIP3000017, BRHIP3000240,
 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 25 FEBRA2028516, HCHON2000743, IMR322001879, NT2RI2009583,
 NT2RP8000521, OCBBF2008144, OCBBF2011669, PERIC2007068,
 PUAEN2006335, SPLEN2039379, SYNOV2021953, TESTI2015626,
 TESTI4001984, TESTI4008058, TESTI4013894, TESTI4025268,
 TESTI4032090, THYMU2004284, THYMU2040925, THYMU3000360,
 30 TLIVE2002046, TRACH3000134, UTERU2008040, UTERU2011220,
 UTERU2021820, UTERU2028734

These genes are involved in equilibrium sense or motor function.

35 Genes involved in signaling from sensory organs

The thalamus is an area which comprises many neurons strongly connected to the cerebrum, and which transmits sensory information from the spinal cord or such to the responsible area of the cerebrum. The thalamus also controls the direction of movement from the cerebrum. For example, the thalamus resolves vision into the elements of size, shape, and color, and resolves sound into volume and sweetness or harshness to the ear, and then transmits this information to the sensory area of the cerebral cortex. Thus, genes whose expression levels differ between tissues of the whole brain and the thalamus are expected to be involved in signaling from sensory organs. These genes can be used to elucidate the molecular mechanism underlying signaling controlled by the brain. cDNA libraries derived from the thalamus (BRTHA) and from whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 8). Genes whose expression levels differed between the two were the 412 clones and 56 clones listed below.

ASTRO1000009, ASTRO3000482, BLADE2008398, BRACE1000186,
 BRACE1000258, BRACE1000533, BRACE2005457, BRACE2010489,
 BRACE2014306, BRACE2014657, BRACE2015058, BRACE2031154,
 BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,
 BRACE3003192, BRACE3005499, BRACE3007480, BRACE3008384,
 BRACE3009237, BRACE3009724, BRACE3009747, BRACE3010397,
 BRACE3010428, BRACE3011271, BRACE3011421, BRACE3012364,
 BRACE3022769, BRACE3026735, BRACE3027478, BRACE3031838,
 BRALZ2011796, BRAMY2003008, BRAMY2005052, BRAMY2019300,
 BRAMY2019963, BRAMY2028914, BRAMY2031317, BRAMY2036567,
 BRAMY2037823, BRAMY2040592, BRAMY2044078, BRAMY3002803,
 BRAMY3004224, BRAMY3005091, BRAMY4000229, BRAWH1000127,
 BRAWH2001395, BRAWH2001671, BRAWH2001940, BRAWH2001973,
 BRAWH2002560, BRAWH2002761, BRAWH2005315, BRAWH2007658,
 BRAWH2010000, BRAWH2010084, BRAWH2010536, BRAWH2012162,
 BRAWH2012326, BRAWH2013294, BRAWH2013871, BRAWH2014414,
 BRAWH2014645, BRAWH2014662, BRAWH2014876, BRAWH2014954,
 BRAWH2016221, BRAWH2016439, BRAWH2016702, BRAWH2016724,
 BRAWH3000078, BRAWH3000100, BRAWH3000314, BRAWH3000491,

BRAWH3001326, BRAWH3001475, BRAWH3001891, BRAWH3002574,
BRAWH3002600, BRAWH3002819, BRAWH3002821, BRAWH3003522,
BRAWH3003555, BRAWH3003727, BRAWH3003801, BRAWH3003992,
BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005422,
5 BRAWH3005912, BRAWH3005981, BRAWH3006548, BRAWH3006792,
BRAWH3007221, BRAWH3007506, BRAWH3007592, BRAWH3007726,
BRAWH3007783, BRAWH3008341, BRAWH3008697, BRAWH3008931,
BRAWH3009297, BRCAN2006297, BRCOC2003213, BRCOC2014033,
BRCOC2020142, BRHIP2000819, BRHIP2000920, BRHIP2005719,
10 BRHIP2007741, BRHIP2009474, BRHIP2013699, BRHIP2014228,
BRHIP2022221, BRHIP2024146, BRHIP3000339, BRHIP3006683,
BRHIP3007586, BRHIP3008405, BRHIP3018797, BRSSN2000684,
BRSSN2008549, BRSSN2008797, BRSSN2011738, BRSSN2014299,
BRSTN2004863, BRSTN2008052, BRSTN2015015, BRSTN2016470,
15 BRTHA1000311, BRTHA2000855, BRTHA2001462, BRTHA2002115,
BRTHA2002281, BRTHA2002376, BRTHA2002442, BRTHA2002493,
BRTHA2002608, BRTHA2002808, BRTHA2003030, BRTHA2003110,
BRTHA2003116, BRTHA2003461, BRTHA2004821, BRTHA2004978,
BRTHA2005579, BRTHA2005956, BRTHA2006075, BRTHA2006146,
20 BRTHA2006194, BRTHA2007122, BRTHA2007422, BRTHA2007603,
BRTHA2008316, BRTHA2008335, BRTHA2008527, BRTHA2008535,
BRTHA2008955, BRTHA2009311, BRTHA2009846, BRTHA2009972,
BRTHA2010073, BRTHA2010608, BRTHA2010884, BRTHA2010907,
BRTHA2011194, BRTHA2011351, BRTHA2011500, BRTHA2011641,
25 BRTHA2012392, BRTHA2012562, BRTHA2012980, BRTHA2013262,
BRTHA2013460, BRTHA2013707, BRTHA2014792, BRTHA2014828,
BRTHA2015406, BRTHA2015478, BRTHA2015696, BRTHA2015878,
BRTHA2016215, BRTHA2016496, BRTHA2016543, BRTHA2017353,
BRTHA2017985, BRTHA2018165, BRTHA2018344, BRTHA2018591,
30 BRTHA2018624, BRTHA2018707, BRTHA2019014, BRTHA2019022,
BRTHA2019048, BRTHA3000273, BRTHA3000297, BRTHA3000633,
BRTHA3001721, BRTHA3002401, BRTHA3002427, BRTHA3002933,
BRTHA3003074, BRTHA3003343, BRTHA3003449, BRTHA3003474,
BRTHA3003490, BRTHA3004475, BRTHA3005046, BRTHA3006856,
35 BRTHA3007113, BRTHA3007148, BRTHA3007319, BRTHA3007769,
BRTHA3008143, BRTHA3008310, BRTHA3008386, BRTHA3008520,

BRTHA3008778, BRTHA3009037, BRTHA3009090, BRTHA3009291,
 BRTHA3010366, BRTHA3013884, BRTHA3015815, BRTHA3015910,
 BRTHA3016845, BRTHA3016917, BRTHA3017047, BRTHA3017589,
 BRTHA3017848, BRTHA3018514, BRTHA3018617, BRTHA3018656,
 5 BRTHA3019105, COLON2001721, CTONG1000087, CTONG2008233,
 CTONG2017500, CTONG2019788, CTONG2023021, CTONG2028124,
 CTONG3000657, CTONG3001123, CTONG3008894, CTONG3009028,
 CTONG3009239, CTONG3009328, FCBBF2001183, FCBBF3001977,
 FCBBF3021576, FEBRA2007544, FEBRA2007801, FEBRA2008287,
 10 FEBRA2008360, FEBRA2020886, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000212, HCHON2000244, HCHON2000626,
 HCHON2001084, HCHON2001217, HCHON2002676, HCHON2005921,
 HCHON2006250, HEART1000074, HEART2007031, HHDP1000118,
 HLUNG2001996, HLUNG2002465, IMR322000127, IMR322001380,
 15 IMR322002035, KIDNE2002252, KIDNE2005543, KIDNE2006580,
 KIDNE2011314, MESAN2006563, MESAN2012054, MESTC1000042,
 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 NT2RI2014733, NT2RI3002842, NT2RI3002892, NT2RI3005403,
 NT2RI3006284, NT2RI3006673, NT2RI3007543, NT2RI3008055,
 20 NT2RP7004123, NT2RP7005529, NT2RP7009147, NT2RP7014005,
 NT2RP7017474, NTONG2005969, NTONG2008088, OCBBF2001794,
 OCBBF2006005, OCBBF2006764, OCBBF2007028, OCBBF2010140,
 OCBBF2020639, OCBBF2021286, OCBBF2024719, OCBBF2024850,
 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 25 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2002489,
 PUAEN2005930, PUAEN2006701, PUAEN2007044, PUAEN2009655,
 RECTM2001347, SKMUS2000757, SPLEN2006122, SPLEN2010912,
 SPLEN2025491, SPLEN2028914, SPLEN2031424, SPLEN2031547,
 SPLEN2032154, SPLEN2034781, SPLEN2036821, SPLEN2036932,
 30 SYNOV1000374, SYNOV2014400, SYNOV4002346, SYNOV4002883,
 SYNOV4007430, SYNOV4007671, SYNOV4008440, TESOP2002451,
 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4002290, TESTI4006137, TESTI4008797, TESTI4009286,
 TESTI4010851, TESTI4012702, TESTI4013817, TESTI4014159,
 35 TESTI4014694, TESTI4021478, TESTI4022936, TESTI4024420,
 TESTI4027821, TESTI4037156, THYMU2001090, THYMU2025707,

THYMU2032825, THYMU2033308, THYMU2033787, THYMU2035735,
 THYMU2039315, THYMU2040975, THYMU3001234, THYMU3001379,
 THYMU3004835, THYMU3008171, TKIDN2009641, TKIDN2009889,
 TKIDN2015788, TLIVE2001327, TRACH1000205, TRACH2001549,
 5 TRACH2005811, TRACH2006049, TRACH2007834, TRACH2008300,
 TRACH2023299, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3007479,
 TRACH3008093, TRACH3009455, TSTOM1000135, TUTER2000904,
 UTERU2002410, UTERU2006115, UTERU2019706, UTERU2019940,
 10 UTERU2023039, UTERU2023175, UTERU2026203, UTERU2030280,
 UTERU3000899, UTERU3001571, UTERU3001572, UTERU3004709,
 UTERU3005230, UTERU3005907, UTERU3007640, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 15 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRHIP2005271, BRHIP3000017, BRTHA2002133, BRTHA2002702,
 BRTHA2007060, BRTHA2010033, BRTHA2011321, BRTHA2013426,
 BRTHA2013610, BRTHA2016318, BRTHA2017364, BRTHA2017972,
 BRTHA2018011, BRTHA2018443, BRTHA3000296, BRTHA3003000,
 20 BRTHA3008826, CTONG2008721, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000743, HSYRA2005628, IMR322001879,
 NT2RI2009583, OCBBF2008144, PERIC2007068, PUAEN2006335,
 SPLEN2016932, SPLEN2039379, SYNOV2006620, TESTI4001984,
 25 TESTI4008058, TESTI4025268, TESTI4032090, THYMU3000360,
 TLIVE2002046, TRACH3000134, UTERU2021820, UTERU2028734

These genes are involved in signaling from sensory organs.

Genes involved in emotional reaction

30 The amygdala is the center of emotion in the brain.
 Information passing through the amygdala induces an emotional
 reaction, for example, panic or fear. When a strong fear
 reaction is produced due to the emotional evaluation of stimulus
 in the amygdala, the amygdala transmits an alert signal to each
 35 area of the brain. This results in various reactions such as
 sweating palms, palpitation, elevated blood pressure, and rapid

secretion of adrenaline. In other words, the amygdala transmits signals which cause the body to be on the alert and is a tissue involved in a kind of defense instinct. Thus, genes whose expression levels differ between tissues of the whole brain and the amygdala are expected to be involved in emotional reaction. Such genes can be used to elucidate the molecular mechanism underlying emotional reaction, fear, or panic. cDNA libraries derived from the amygdala (BRAMY) and from whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 9). Genes whose expression levels differed between the two were the 383 clones and 55 clones listed below.

ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 BRACE1000533, BRACE2005457, BRACE2006319, BRACE2010489,
 BRACE2014657, BRACE2015058, BRACE2027258, BRACE2030341,
 15 BRACE2031389, BRACE2035381, BRACE2044286, BRACE2045954,
 BRACE3000787, BRACE3000973, BRACE3003192, BRACE3005499,
 BRACE3007480, BRACE3008036, BRACE3009237, BRACE3009724,
 BRACE3009747, BRACE3010428, BRACE3011271, BRACE3011421,
 BRACE3012364, BRACE3013780, BRACE3022769, BRACE3026735,
 20 BRACE3027478, BRACE3031838, BRALZ2011796, BRAMY2001473,
 BRAMY2003008, BRAMY2004771, BRAMY2005052, BRAMY2017528,
 BRAMY2019300, BRAMY2019963, BRAMY2019985, BRAMY2020058,
 BRAMY2020270, BRAMY2021498, BRAMY2028856, BRAMY2028914,
 BRAMY2029602, BRAMY2030098, BRAMY2030109, BRAMY2030702,
 25 BRAMY2030703, BRAMY2030799, BRAMY2031317, BRAMY2031377,
 BRAMY2031442, BRAMY2032014, BRAMY2032242, BRAMY2032317,
 BRAMY2033003, BRAMY2033116, BRAMY2033267, BRAMY2033594,
 BRAMY2034185, BRAMY2034920, BRAMY2034993, BRAMY2036387,
 BRAMY2036396, BRAMY2036567, BRAMY2036699, BRAMY2036913,
 30 BRAMY2037823, BRAMY2038100, BRAMY2038484, BRAMY2038846,
 BRAMY2038904, BRAMY2039872, BRAMY2040478, BRAMY2040592,
 BRAMY2041261, BRAMY2041378, BRAMY2041542, BRAMY2042612,
 BRAMY2042641, BRAMY2042760, BRAMY2042918, BRAMY2044078,
 BRAMY2044246, BRAMY2045036, BRAMY2046478, BRAMY2046742,
 35 BRAMY2046989, BRAMY2047169, BRAMY2047420, BRAMY2047676,
 BRAMY2047746, BRAMY2047751, BRAMY2047765, BRAMY2047884,

BRAMY3000206, BRAMY3000213, BRAMY3001401, BRAMY3001794,
 BRAMY3002312, BRAMY3002620, BRAMY3002803, BRAMY3002805,
 BRAMY3004224, BRAMY3004672, BRAMY3004900, BRAMY3004919,
 BRAMY3005091, BRAMY3005932, BRAMY3006297, BRAMY3007206,
 5 BRAMY3007609, BRAMY3008466, BRAMY3008505, BRAMY3008650,
 BRAMY3009811, BRAMY3010411, BRAMY4000095, BRAMY4000229,
 BRAMY4000277, BRAWH1000127, BRAWH2001395, BRAWH2001671,
 BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,
 BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
 10 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
 BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
 BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
 BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,
 BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
 15 BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
 BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
 BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
 BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
 BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,
 20 BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
 BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2014881,
 BRCAN2017717, BRCOC2000670, BRCOC2003213, BRCOC2014033,
 BRCOC2020142, BRHIP2000920, BRHIP2005719, BRHIP2007741,
 BRHIP2014228, BRHIP2024146, BRHIP2026061, BRHIP3000339,
 25 BRHIP3001283, BRHIP3006683, BRHIP3007586, BRHIP3008405,
 BRHIP3018797, BRSSN2000684, BRSSN2004496, BRSSN2011738,
 BRSSN2014299, BRSTN2008052, BRSTN2010750, BRSTN2015015,
 BRSTN2016470, BRTHA1000311, BRTHA2008335, BRTHA2011641,
 BRTHA3001721, BRTHA3002427, BRTHA3003490, BRTHA3004475,
 30 BRTHA3008520, BRTHA3009090, BRTHA3017848, COLON2001721,
 CTONG1000087, CTONG2008233, CTONG2017500, CTONG2028124,
 CTONG3000657, CTONG3001123, CTONG3008894, CTONG3009239,
 CTONG3009328, FCBBF2001183, FCBBF3001977, FEBRA2007544,
 FEBRA2007801, FEBRA2008287, FEBRA2010719, FEBRA2020886,
 35 FEBRA2025427, FEBRA2028618, HCASM2007047, HCHON2000244,
 HCHON2000626, HCHON2001217, HCHON2002676, HCHON2006250,

HCHON2008112, HEART1000074, HHDPC1000118, HLUNG2002465,
 HSYRA2009075, IMR322000127, IMR322001380, IMR322002035,
 KIDNE2000665, KIDNE2006580, MESAN2006563, MESAN2012054,
 MESAN2015515, MESTC1000042, NOVAR2001783, NT2NE2005890,
 5 NT2NE2006909, NT2RI2008724, NT2RI2012659, NT2RI2014733,
 NT2RI3001515, NT2RI3002892, NT2RI3005724, NT2RI3006284,
 NT2RI3006673, NT2RI3007543, NT2RI3008055, NT2RP7005529,
 NT2RP7009147, NT2RP7014005, NT2RP7017474, NTONG2005969,
 OCBBF1000254, OCBBF2001794, OCBBF2006005, OCBBF2006764,
 10 OCBBF2007028, OCBBF2007114, OCBBF2010140, OCBBF2021286,
 OCBBF2023162, OCBBF2024850, OCBBF2028935, OCBBF2035214,
 OCBBF2036743, OCBBF2038317, OCBBF3000483, OCBBF3008230,
 PEBLM2004666, PERIC2000889, PERIC2003720, PLACE6001185,
 PUAEN2005930, PUAEN2006701, PUAEN2007044, PUAEN2009174,
 15 PUAEN2009655, SKNMC2002402, SKNSH2000482, SPLEN2001599,
 SPLEN2002467, SPLEN2028914, SPLEN2029912, SPLEN2031424,
 SPLEN2031547, SPLEN2034781, SPLEN2036932, SPLEN2038345,
 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4007671, SYNOV4008440, TESOP2002451, TESTI2009474,
 20 TESTI4000014, TESTI4000209, TESTI4001100, TESTI4006137,
 TESTI4008797, TESTI4009286, TESTI4010851, TESTI4013817,
 TESTI4014159, TESTI4014694, TESTI4021478, TESTI4022936,
 TESTI4024420, TESTI4027821, TESTI4029836, TESTI4037156,
 TESTI4037188, THYMU2001090, THYMU2014353, THYMU2033308,
 25 THYMU2035735, THYMU2037226, THYMU2039315, THYMU3001234,
 THYMU3001379, THYMU3004835, THYMU3008171, TKIDN2009641,
 TKIDN2009889, TKIDN2015788, TLIVE2004320, TRACH1000205,
 TRACH2001549, TRACH2001684, TRACH2005811, TRACH2006049,
 TRACH2007834, TRACH2008300, TRACH2025344, TRACH2025535,
 30 TRACH2025911, TRACH3001427, TRACH3002192, TRACH3004068,
 TRACH3004721, TRACH3005294, TRACH3007479, TRACH3008093,
 TRACH3009455, TUTER2000904, UTERU2002410, UTERU2004929,
 UTERU2006115, UTERU2007520, UTERU2019706, UTERU2023039,
 UTERU2026203, UTERU3001572, UTERU3001766, UTERU3005230,
 35 UTERU3007640, UTERU3009517, UTERU3009871

ADRGL2000042, BLADE2006830, BRACE2003609, BRACE2039823,
 BRAMY2019111, BRAMY2035070, BRAMY2035449, BRAMY2035718,
 BRAMY2038516, BRAMY2039341, BRAMY2040159, BRAMY2041434,
 BRAMY2045471, BRAMY3004800, BRAWH1000369, BRAWH2006207,
 5 BRAWH2006395, BRAWH2008993, BRAWH2009393, BRAWH2010552,
 BRAWH3007441, BRAWH3009017, BRHIP2005271, BRHIP3000017,
 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000508, HCHON2000743, IMR322001879,
 10 NT2RI2009583, OCBBF2008144, PERIC2007068, PUAEN2006335,
 SPLEN2039379, TESTI2015626, TESTI2026647, TESTI4001984,
 TESTI4008058, TESTI4013894, TESTI4025268, TESTI4032090,
 THYMU3000360, TKIDN2018926, TLIVE2002046, TRACH3000134,
 UTERU2008040, UTERU2021820, UTERU2028734

15 These genes are involved in emotional reaction.

Cancer-related genes

Cancer tissues are assumed to express a distinct set of
 genes distinct from normal tissues, and thus expression of these
 20 genes can contribute to carcinogenesis in tissues and cells.
 Thus, genes whose expression patterns in cancer tissues differ
 from those in normal tissues are cancer-related genes. A search
 was carried out for genes whose expression levels in cancer
 tissues differed from those in normal tissues.

25 The result of comparative analysis of cDNA libraries
 derived from breast tumor (TBAES) and normal breast (BEAST)
 (Table 10) showed that the genes whose expression levels
 differed between the two were the 35 and four clones listed
 below.

30 ASTRO2002842, BRACE3016884, BRSSN2011262, BRTHA2008335,
 HCHON2000244, HCHON2006250, HEART1000010, MESAN2012054,
 NT2RP7000466, NT2RP7009147, OCBBF2021020, PEBLM2002749,
 PEBLM2004666, SPLEN2001599, SPLEN2031547, STOMA1000189,
 TBAES2001171, TBAES2001220, TBAES2001229, TBAES2001258,
 35 TBAES2001492, TBAES2001751, TBAES2002197, TBAES2003550,
 TBAES2004055, TBAES2005157, TBAES2005543, TBAES2006568,

TBAES2007964, TESTI4000014, TESTI4037156, TRACH3002192,
 TRACH3004068, TSTOM2000553, UTERU2002410
 BRAWH2006395, NT2RI2009583, STOMA2004893, TBAES2000932

The result of comparative analysis of cDNA libraries
 5 derived from cervical tumor (TCERX) and normal cervical duct
 (CERVX) (Table 11) showed that the genes whose expression levels
 differed between the two were twelve and two clones listed below.
 BLADE2007666, BRAMY2047420, BRCAN2007409, BRSTN2016470,
 CERVX1000042, CERVX2002006, MESAN2006563, PROST2018090,
 10 TCERX2000613, TESTI4037156, THYMU2031341, UTERU2004688
 CERVX2002013, NT2RI2009583

The result of comparative analysis of cDNA libraries
 derived from colon tumor (TCOLN) and normal colon (COLON) (Table
 12) showed that the genes whose expression levels differed
 15 between the two were the 24 and four clones listed below.
 BRACE3015027, BRAMY2040592, BRSTN2016470, COLON1000030,
 COLON2000470, COLON2000568, COLON2001721, COLON2002443,
 COLON2002520, COLON2003043, COLON2004478, COLON2005126,
 COLON2005772, COLON2006282, COLON2009499, OCBBF2028935,
 20 PLACE7000514, RECTM2000433, SYNOV4007671, TCOLN2002278,
 TESTI2052693, TESTI4037156, THYMU2031368, TRACH2025535
 CTONG1000113, NT2RI2009583, NT2RI2018448, TESTI2015626

The result of comparative analysis of cDNA libraries
 derived from esophageal tumor (TESOP) and normal esophagus
 25 (NESOP) (Table 13) showed that the genes whose expression levels
 differed between the two were the 56 and ten clones listed below.
 BRACE2030341, BRAMY2047420, BRHIP2003917, BRTHA2003461,
 CTONG2013178, D3OST3000169, FEBRA2025427, HCHON2000244,
 HHDPC1000118, NESOP2000744, NESOP2001433, NESOP2001656,
 30 NESOP2001694, NESOP2001752, NESOP2002738, NT2RI3006284,
 NT2RP7009147, PLACE6019932, SYNOV2005216, TESOP1000127,
 TESOP2000801, TESOP2001122, TESOP2001166, TESOP2001345,
 TESOP2001605, TESOP2001818, TESOP2001849, TESOP2001865,
 TESOP2001953, TESOP2002273, TESOP2002451, TESOP2002489,
 35 TESOP2002539, TESOP2002950, TESOP2003273, TESOP2003753,
 TESOP2004114, TESOP2005285, TESOP2005485, TESOP2005579,

TESOP2006041, TESOP2006060, TESOP2006068, TESOP2006670,
 TESOP2006746, TESOP2007052, TESOP2007262, TESOP2007636,
 TESOP2007688, TESOP2009121, TESOP2009555, TESTI4009286,
 TESTI4010851, THYMU2040975, TRACH2005811, UTERU2023175
 5 CTONG2016942, NT2RI2009583, TESOP2000390, TESOP2001796,
 TESOP2005199, TESOP2006398, TESOP2006865, TESOP2007384,
 TESTI2015626, TRACH2000862

The result of comparative analysis of cDNA libraries
 derived from kidney tumor (TKIDN) and normal kidney (KIDNE)
 10 (Table 14) showed that the genes whose expression levels
 differed between the two were the 96 and 13 clones listed below.
 ASTRO2018373, BRACE1000186, BRACE2014306, BRACE2015058,
 BRACE2016981, BRACE2043665, BRACE3008036, BRACE3010428,
 BRACE3022769, BRAMY2019963, BRAMY2044078, BRAWH1000127,
 15 BRAWH2001395, BRAWH2001671, BRAWH2013294, BRAWH2014645,
 BRHIP2024146, BRHIP3000339, BRSSN2000684, BRSSN2004719,
 BRSSN2018581, BRSTN2016470, BRTHA1000311, BRTHA3002427,
 CTONG1000087, CTONG2028124, CTONG3000657, CTONG3008894,
 FCBBF2001183, FEBRA2008287, HCASM2001301, HCHON2000028,
 20 HCHON2000244, HEART1000074, HHDPC1000118, HSYRA2008376,
 KIDNE1000064, KIDNE2000665, KIDNE2000722, KIDNE2000832,
 KIDNE2000846, KIDNE2001361, KIDNE2001847, KIDNE2002252,
 KIDNE2002991, KIDNE2003837, KIDNE2005543, KIDNE2006580,
 KIDNE2010264, KIDNE2011314, KIDNE2011532, KIDNE2011635,
 25 KIDNE2012945, KIDNE2013095, NESOP2001656, NTONG2005969,
 PEBLM2004666, SKMUS2000757, STOMA1000189, SYNOV4007671,
 TBAES2001258, TESTI4000014, TESTI4001100, TESTI4012702,
 TESTI4046819, THYMU2032014, TKIDN2000701, TKIDN2002424,
 TKIDN2002632, TKIDN2003044, TKIDN2004386, TKIDN2005934,
 30 TKIDN2005947, TKIDN2006525, TKIDN2006852, TKIDN2007667,
 TKIDN2009092, TKIDN2009641, TKIDN2009889, TKIDN2010934,
 TKIDN2012824, TKIDN2013287, TKIDN2014757, TKIDN2014771,
 TKIDN2015263, TKIDN2015788, TKIDN2016309, TKIDN2019116,
 TRACH2001443, TRACH2001684, TRACH2007834, TRACH2008300,
 35 TRACH3001427, UTERU2002410, UTERU2023175, UTERU3001572

BLADE2006830, BRALZ2017844, CTONG2028758, FCBBF1000509,
 FEBRA2001990, FEBRA2028516, HCHON2000508, MESAN2005303,
 NT2RI2009583, TESTI2015626, TKIDN2008778, TKIDN2012771,
 TKIDN2018926

5 The result of comparative analysis of cDNA libraries
 derived from liver tumor (TLIVE) and normal liver (LIVER) (Table
 15) showed that the genes whose expression levels differed
 between the two were the 35 and six clones listed below.
 BRCAN2018935, BRSTN2016470, BRTHA2012980, BRTHA3002427,
 10 CTONG2028124, LIVER2007415, NT2RI2008724, SPLEN2012624,
 SPLEN2033098, TESOP2002451, TLIVE2000023, TLIVE2001327,
 TLIVE2001828, TLIVE2001927, TLIVE2002336, TLIVE2002338,
 TLIVE2002690, TLIVE2003197, TLIVE2003225, TLIVE2003381,
 TLIVE2003970, TLIVE2004110, TLIVE2004320, TLIVE2004601,
 15 TLIVE2005180, TLIVE2006236, TLIVE2006529, TLIVE2007132,
 TLIVE2007528, TLIVE2007816, TLIVE2008083, TLIVE2008229,
 TLIVE2009541, UTERU2002410, UTERU2005621
 LIVER2000247, NT2RI2009583, TESTI2015626, TLIVE2001684,
 TLIVE2002046, TLIVE2007607

20 The result of comparative analysis of cDNA libraries
 derived from lung tumor (TLUNG) and normal lung (HLUNG) (Table
 16) showed that the genes whose expression levels differed
 between the two were the 47 and nine clones listed below.
 BRCAN2021028, BRHIP2000819, BRSTN2016470, CTONG1000087,
 25 CTONG2028124, HCHON2006250, HEART1000074, HLUNG1000017,
 HLUNG2000014, HLUNG2001996, HLUNG2002465, HLUNG2002958,
 HLUNG2003003, HLUNG2003872, HLUNG2010464, HLUNG2011041,
 HLUNG2011298, HLUNG2012049, HLUNG2012287, HLUNG2012727,
 HLUNG2013204, HLUNG2013304, HLUNG2013622, HLUNG2013851,
 30 HLUNG2014262, HLUNG2014288, HLUNG2014449, HLUNG2015617,
 HLUNG2017350, HLUNG2017546, HLUNG2017806, HLUNG2019058,
 HSYRA2008376, KIDNE2012945, NT2RI2003993, NT2RP7013795,
 OCBBF3000483, SPLEN2028914, SPLEN2031547, SYNOV4007671,
 TESOP1000127, TESTI2003573, TESTI4000014, TESTI4037156,
 35 TRACH2005811, TRACH3004068, UTERU2005621

FEBRA2028516, HCHON2000508, HLUNG2013350, HLUNG2015418,
 HLUNG2015548, HLUNG2016862, NT2RI2009583, TESTI2015626,
 TRACH2019672

The result of comparative analysis of cDNA libraries
 5 derived from ovary tumor (TOVER) and normal ovary (NOVER) (Table
 17A) showed the genes whose expression levels differed between
 the two were the 16 clones listed below.

CTONG2019788, FEBRA2014213, HLUNG2017546, NOVAR2000136,
 NOVAR2000710, NOVAR2000962, NOVAR2001108, NOVAR2001783,
 10 OCBBF3007516, TESTI2052693, TOVAR2000649, TOVAR2001281,
 TOVAR2001730, TOVAR2002247, TOVAR2002549, TRACH3004068

The result of comparative analysis of cDNA libraries
 derived from ovary tumor (TOVER) and normal ovary (NOVER) (Table
 17B) showed the gene whose expression level was different
 15 between the two was the one clone described below. There was no
 difference in expression levels of this gene between normal and
 diseased ovaries, however there was a significant difference in
 the expression level in both tumorous and normal ovaries when
 compared with in other tissues. Thus, this gene is an ovary-
 20 specific gene and can be used as a diagnostic marker due to its
 association with disease.

TESTI2015626

The result of comparative analysis of cDNA libraries
 derived from stomach tumor (TSTOM) and normal stomach (STOMA)
 25 (Table 18) showed that the genes whose expression levels
 differed between the two were the 31 and five clones listed
 below.

BRACE2024627, BRAWH2014645, BRCAN2028355, BRHIP2000819,
 BRSTN2016470, BRTHA3003490, COLON2002443, HEART1000010,
 30 HLUNG2002465, KIDNE2001847, NT2RP7000466, PUAEN2006328,
 SMINT2001818, STOMA1000189, STOMA2003444, STOMA2004294,
 STOMA2004925, STOMA2008546, SYNOV4007671, TESTI4000014,
 TESTI4010851, THYMU2035735, TRACH2001549, TRACH2005811,
 TRACH2025535, TSTOM1000135, TSTOM2000442, TSTOM2000553,
 35 TSTOM2002672, UTERU2006115, UTERU3001572

FEBRA2008692, NT2RI2009583, STOMA2003158, STOMA2004893,
TESTI2015626

The result of comparative analysis of cDNA libraries derived from uterine tumor (TUTER) and normal uterus (UTERU) (Table 19) showed that the genes whose expression levels differed between the two were the 244 and 34 clones listed below.

5 BNGH42007788, BRACE1000186, BRACE2030341, BRACE3008772,
BRACE3009747, BRACE3010428, BRACE3027478, BRALZ2017359,
BRAWH2014645, BRAWH3000314, BRAWH3001326, BRAWH3002574,
10 BRAWH3002821, BRAWH3003727, BRAWH3007592, BRCAN2009432,
BRCAN2028355, BRHIP3007586, BRHIP3008344, BRHIP3008565,
BRSSN2006892, BRSTN2001067, BRSTN2016470, BRTHA2010608,
BRTHA3003074, CTONG1000087, CTONG1000467, CTONG2028124,
CTONG3001123, CTONG3008894, CTONG3009028, CTONG3009239,
15 FCBBF3004847, FEBRA2026984, FEBRA2028618, HCHON2000244,
HCHON2000418, HCHON2000626, HCHON2001084, HCHON2001217,
HCHON2005921, HCHON2006250, HCHON2008444, HLUNG2003003,
HSYRA2008376, KIDNE2002252, MESAN2014295, NOVAR2000710,
NT2RI2008724, NT2RI2014247, NT2RI2014733, NT2RI3002892,
20 NT2RI3005724, NT2RI3006284, NT2RI3006340, NT2RI3006673,
NT2RI3007291, NT2RI3007543, NT2RP7004123, NT2RP7005529,
NT2RP7009147, NT2RP7017474, OCBBF2007028, OCBBF2020741,
OCBBF2024850, OCBBF2036743, OCBBF3000483, PLACE6001185,
PLACE7000514, PUAEN2007044, PUAEN2009655, SKNSH2000482,
25 SPLEN2006122, SPLEN2016554, SPLEN2031547, SPLEN2036932,
STOMA1000189, STOMA2004925, SYNOV2017055, SYNOV4001395,
SYNOV4002346, SYNOV4008440, TCERX2000613, TESOP2002273,
TESTI4000014, TESTI4008797, TESTI4009286, TESTI4012702,
TESTI4013675, TESTI4014159, TESTI4018886, TESTI4029671,
30 TESTI4037156, THYMU2008725, THYMU2031890, THYMU2033070,
THYMU2035735, THYMU3001472, TRACH1000205, TRACH2001443,
TRACH2001549, TRACH2005811, TRACH2007834, TRACH2008300,
TRACH3002192, TRACH3003379, TRACH3004068, TRACH3004721,
TRACH3007479, TUTER1000122, TUTER2000425, TUTER2000904,
35 TUTER2000916, TUTER2001387, TUTER2002729, UTERU1000024,
UTERU1000031, UTERU1000148, UTERU1000249, UTERU1000337,

UTERU1000339, UTERU2000649, UTERU2001409, UTERU2002410,
 UTERU2002841, UTERU2004688, UTERU2004929, UTERU2005004,
 UTERU2005621, UTERU2006115, UTERU2006137, UTERU2006568,
 UTERU2007444, UTERU2007520, UTERU2007724, UTERU2008347,
 5 UTERU2014678, UTERU2017762, UTERU2019491, UTERU2019681,
 UTERU2019706, UTERU2019940, UTERU2020491, UTERU2020718,
 UTERU2021163, UTERU2021380, UTERU2022020, UTERU2022981,
 UTERU2023039, UTERU2023175, UTERU2023651, UTERU2023712,
 UTERU2024002, UTERU2024656, UTERU2025025, UTERU2025645,
 10 UTERU2025891, UTERU2026025, UTERU2026090, UTERU2026203,
 UTERU2027591, UTERU2029953, UTERU2030213, UTERU2030280,
 UTERU2031084, UTERU2031268, UTERU2031521, UTERU2031703,
 UTERU2031851, UTERU2033375, UTERU2033382, UTERU2035114,
 UTERU2035323, UTERU2035328, UTERU2035331, UTERU2035452,
 15 UTERU2035469, UTERU2035503, UTERU2035745, UTERU2036089,
 UTERU2037361, UTERU2037577, UTERU2038251, UTERU3000226,
 UTERU3000645, UTERU3000665, UTERU3000828, UTERU3000899,
 UTERU3001059, UTERU3001240, UTERU3001542, UTERU3001571,
 UTERU3001572, UTERU3001585, UTERU3001652, UTERU3001766,
 20 UTERU3001988, UTERU3002209, UTERU3002218, UTERU3002383,
 UTERU3002667, UTERU3002731, UTERU3002768, UTERU3002786,
 UTERU3002993, UTERU3003116, UTERU3003135, UTERU3003178,
 UTERU3003465, UTERU3003523, UTERU3003776, UTERU3004523,
 UTERU3004616, UTERU3004709, UTERU3004992, UTERU3005049,
 25 UTERU3005205, UTERU3005230, UTERU3005460, UTERU3005585,
 UTERU3005907, UTERU3005970, UTERU3006008, UTERU3006308,
 UTERU3007134, UTERU3007419, UTERU3007640, UTERU3007913,
 UTERU3008660, UTERU3008671, UTERU3009259, UTERU3009490,
 UTERU3009517, UTERU3009690, UTERU3009871, UTERU3009979,
 30 UTERU3011063, UTERU3015086, UTERU3015500, UTERU3016789,
 UTERU3018081, UTERU3018154, UTERU3018616, UTERU3018711
 ADRGL2000042, BRHIP3000017, CTONG2003348, CTONG2019822,
 CTONG2020378, CTONG2020411, CTONG2024031, FEBRA2028516,
 HCASM2008536, HCHON2000743, IMR322001879, MESAN2005303,
 35 NT2RI2009583, OCBBF2008144, PERIC2007068, SPLEN2039379,
 TESTI2015626, TESTI4013894, TUTER2000057, UTERU2004299,

UTERU2008040, UTERU2011220, UTERU2019534, UTERU2021820,
 UTERU2028734, UTERU2032279, UTERU2033577, UTERU2035978,
 UTERU3000402, UTERU3000738, UTERU3001053, UTERU3014791,
 UTERU3015412, UTERU3017176

5 The result of comparative analysis of cDNA libraries
 derived from tongue cancer (CTONG) and normal tongue (NTONG)
 (Table 20) showed that the genes whose expression levels
 differed between the two were the 166 and 31 clones listed below.

10 BNGH42007788, BRACE1000186, BRACE2006319, BRACE3010428,
 BRACE3012364, BRAMY2020058, BRAMY3002803, BRAWH2001671,
 BRAWH2014645, BRAWH3002574, BRCAN2009432, BRCAN2015371,
 BRCAN2020710, BRHIP2004814, BRHIP3018797, BRTHA2003461,
 BRTHA3003490, CTONG1000087, CTONG1000088, CTONG1000288,
 CTONG1000302, CTONG1000341, CTONG1000467, CTONG1000488,
 15 CTONG1000508, CTONG1000540, CTONG2000042, CTONG2001877,
 CTONG2004062, CTONG2006798, CTONG2008233, CTONG2009423,
 CTONG2009531, CTONG2010803, CTONG2013178, CTONG2017500,
 CTONG2019248, CTONG2019652, CTONG2019704, CTONG2019788,
 CTONG2019833, CTONG2020127, CTONG2020522, CTONG2020638,
 20 CTONG2020806, CTONG2021132, CTONG2022153, CTONG2022601,
 CTONG2023021, CTONG2023512, CTONG2024206, CTONG2024749,
 CTONG2025496, CTONG2025516, CTONG2025900, CTONG2026920,
 CTONG2027327, CTONG2028124, CTONG2028687, CTONG3000084,
 CTONG3000657, CTONG3000686, CTONG3000707, CTONG3000896,
 25 CTONG3001123, CTONG3001370, CTONG3001420, CTONG3001560,
 CTONG3002020, CTONG3002127, CTONG3002412, CTONG3002674,
 CTONG3003179, CTONG3003483, CTONG3003652, CTONG3003654,
 CTONG3003737, CTONG3003905, CTONG3003972, CTONG3004072,
 CTONG3004712, CTONG3005325, CTONG3005648, CTONG3005713,
 30 CTONG3005813, CTONG3006067, CTONG3006186, CTONG3006650,
 CTONG3007444, CTONG3007528, CTONG3007586, CTONG3007870,
 CTONG3008252, CTONG3008258, CTONG3008496, CTONG3008566,
 CTONG3008639, CTONG3008831, CTONG3008894, CTONG3008951,
 CTONG3009028, CTONG3009227, CTONG3009239, CTONG3009328,
 35 CTONG3009385, FEBRA2007544, FEBRA2007801, FEBRA2021966,
 FEBRA2025427, HCHON2000028, HCHON2001217, HHDPC1000118,

HSYRA2008376, KIDNE2001847, KIDNE2002252, MESAN2006563,
 NT2RI2008724, NT2RI2018883, NT2RI3000622, NT2RI3006284,
 NT2RI3006673, NT2RI3007543, NT2RI3007757, NT2RP7004123,
 NT2RP7009147, NT2RP7014005, NTONG2000413, NTONG2003852,
 5 NTONG2005277, NTONG2005969, NTONG2006354, NTONG2007249,
 NTONG2007517, NTONG2008088, NTONG2008672, OCBBF2001794,
 OCBBF2006151, PEBLM2004666, PEBLM2005183, SPLEN2002467,
 SPLEN2029912, SPLEN2031547, SYNOV4007671, SYNOV4008440,
 TBAES2002197, TESOP2002273, TESTI2009474, TESTI4000014,
 10 TESTI4000209, TESTI4008018, TESTI4009286, TESTI4010851,
 TESTI4012702, TESTI4013675, THYMU2031847, THYMU2033308,
 TLIVE2002690, TRACH2005811, TRACH2007059, TRACH2025535,
 TRACH3001427, TSTOM2000553, UTERU2005621, UTERU2017762,
 UTERU2023175, UTERU3001572
 15 BLADE2006830, BRHIP3000017, CTONG1000113, CTONG2003348,
 CTONG2004000, CTONG2008721, CTONG2015596, CTONG2015633,
 CTONG2016942, CTONG2019822, CTONG2020374, CTONG2020378,
 CTONG2020411, CTONG2020974, CTONG2024031, CTONG2028758,
 CTONG3001501, CTONG3002552, CTONG3003598, CTONG3004550,
 20 CTONG3004726, CTONG3009287, FEBRA2008692, FEBRA2028516,
 HCHON2000508, NT2RI2009583, NTONG2008093, PERIC2007068,
 TESOP2007384, TLIVE2002046, TRACH2000862

These genes are involved in cancer.

Expression frequency analysis is used when searching for
 25 genes involved in development and differentiation, where the
 expression levels of genes in developing and/or differentiating
 tissues and/or cells are compared with those in adult tissues
 and/or cells. Genes involved in tissue development and/or
 differentiation are genes which participate in tissue
 30 construction and function expression. These genes are thus
 useful genes available for medicine aiming at regeneration of
 injured tissues.

By using information on gene expression frequency gained
 from the database of the nucleotide sequences of the 1,402,069
 35 clones as described above, genes whose expression frequencies

differed between developing and/or differentiating tissues and/or cells, and adult tissues and/or cells, were analyzed.

The result of comparative analysis of cDNA libraries derived from fetal brain (FCBBF, FEBRA or OCBBF) and adult brain
 5 (BRACE, BRALZ, BRAMY, BRAWH, BRCAN, BRCOC, BRHIP, BRSSN, BRSTN or BRTHA) (Table 21) showed that the genes whose expression levels differed between the two were the 1,035 and 139 clones listed below.

ADRGL2009146, ADRGL2012038, ADRGL2012179, ASTRO1000009,
 10 ASTRO2003960, ASTRO3000482, BLADE1000176, BLADE2001371,
 BLADE2004089, BLADE2008398, BNGH42007788, BRACE1000186,
 BRACE1000258, BRACE1000533, BRACE1000572, BRACE2003639,
 BRACE2005457, BRACE2006319, BRACE2008594, BRACE2010489,
 BRACE2011747, BRACE2014306, BRACE2014475, BRACE2014657,
 15 BRACE2015058, BRACE2015314, BRACE2016981, BRACE2018762,
 BRACE2024627, BRACE2026836, BRACE2027258, BRACE2027970,
 BRACE2028970, BRACE2029112, BRACE2029849, BRACE2030326,
 BRACE2030341, BRACE2030884, BRACE2031154, BRACE2031389,
 BRACE2031527, BRACE2031531, BRACE2031899, BRACE2032044,
 20 BRACE2032329, BRACE2032385, BRACE2032538, BRACE2032823,
 BRACE2033720, BRACE2035381, BRACE2035441, BRACE2036005,
 BRACE2036096, BRACE2036830, BRACE2036834, BRACE2037847,
 BRACE2038114, BRACE2038329, BRACE2038551, BRACE2039249,
 BRACE2039327, BRACE2039475, BRACE2039734, BRACE2040138,
 25 BRACE2040325, BRACE2041009, BRACE2041200, BRACE2041264,
 BRACE2042550, BRACE2043142, BRACE2043248, BRACE2043349,
 BRACE2043665, BRACE2044286, BRACE2044816, BRACE2044949,
 BRACE2045300, BRACE2045428, BRACE2045596, BRACE2045772,
 BRACE2045947, BRACE2045954, BRACE2046251, BRACE2046295,
 30 BRACE2047011, BRACE2047350, BRACE2047377, BRACE2047385,
 BRACE3000071, BRACE3000697, BRACE3000787, BRACE3000840,
 BRACE3000973, BRACE3001002, BRACE3001217, BRACE3001391,
 BRACE3001595, BRACE3001754, BRACE3002298, BRACE3002390,
 BRACE3002508, BRACE3003004, BRACE3003192, BRACE3003595,
 35 BRACE3003698, BRACE3004058, BRACE3004113, BRACE3004150,
 BRACE3004358, BRACE3004435, BRACE3004772, BRACE3004783,

BRACE3004843, BRACE3004880, BRACE3005145, BRACE3005225,
BRACE3005430, BRACE3005499, BRACE3006185, BRACE3006226,
BRACE3006462, BRACE3006872, BRACE3007322, BRACE3007472,
BRACE3007480, BRACE3007559, BRACE3007625, BRACE3007642,
5 BRACE3007767, BRACE3008036, BRACE3008092, BRACE3008137,
BRACE3008384, BRACE3008720, BRACE3008772, BRACE3009090,
BRACE3009237, BRACE3009297, BRACE3009377, BRACE3009574,
BRACE3009701, BRACE3009708, BRACE3009724, BRACE3009747,
BRACE3010397, BRACE3010428, BRACE3011271, BRACE3011421,
10 BRACE3011505, BRACE3012364, BRACE3012930, BRACE3013119,
BRACE3013576, BRACE3013740, BRACE3013780, BRACE3014005,
BRACE3014068, BRACE3014231, BRACE3014317, BRACE3014807,
BRACE3015027, BRACE3015121, BRACE3015262, BRACE3015521,
BRACE3015894, BRACE3016884, BRACE3018308, BRACE3018963,
15 BRACE3019055, BRACE3019084, BRACE3020194, BRACE3020286,
BRACE3020594, BRACE3022769, BRACE3023912, BRACE3024073,
BRACE3024659, BRACE3024662, BRACE3025153, BRACE3025457,
BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026075,
BRACE3026735, BRACE3027242, BRACE3027326, BRACE3027478,
20 BRACE3030103, BRACE3031838, BRACE3032983, BRACE3040856,
BRACE3045033, BRALZ2011796, BRALZ2012183, BRALZ2012848,
BRALZ2014484, BRALZ2016085, BRALZ2016498, BRALZ2017359,
BRAMY2001473, BRAMY2003008, BRAMY2004771, BRAMY2005052,
BRAMY2017528, BRAMY2019300, BRAMY2019963, BRAMY2019985,
25 BRAMY2020058, BRAMY2020270, BRAMY2021498, BRAMY2028856,
BRAMY2028914, BRAMY2029602, BRAMY2030098, BRAMY2030109,
BRAMY2030702, BRAMY2030703, BRAMY2030799, BRAMY2031317,
BRAMY2031377, BRAMY2031442, BRAMY2032014, BRAMY2032242,
BRAMY2032317, BRAMY2033003, BRAMY2033116, BRAMY2033267,
30 BRAMY2033594, BRAMY2034185, BRAMY2034920, BRAMY2034993,
BRAMY2036387, BRAMY2036396, BRAMY2036567, BRAMY2036699,
BRAMY2036913, BRAMY2037823, BRAMY2038100, BRAMY2038484,
BRAMY2038846, BRAMY2038904, BRAMY2039872, BRAMY2040478,
BRAMY2040592, BRAMY2041261, BRAMY2041378, BRAMY2041542,
35 BRAMY2042612, BRAMY2042641, BRAMY2042760, BRAMY2042918,
BRAMY2044078, BRAMY2044246, BRAMY2045036, BRAMY2046478,

BRAMY2046742, BRAMY2046989, BRAMY2047169, BRAMY2047420,
BRAMY2047676, BRAMY2047746, BRAMY2047751, BRAMY2047765,
BRAMY2047884, BRAMY3000206, BRAMY3000213, BRAMY3001401,
BRAMY3001794, BRAMY3002312, BRAMY3002620, BRAMY3002803,
5 BRAMY3002805, BRAMY3004224, BRAMY3004672, BRAMY3004900,
BRAMY3004919, BRAMY3005091, BRAMY3005932, BRAMY3006297,
BRAMY3007206, BRAMY3007609, BRAMY3008466, BRAMY3008505,
BRAMY3008650, BRAMY3009811, BRAMY3010411, BRAMY4000095,
BRAMY4000229, BRAMY4000277, BRASW1000125, BRAWH1000127,
10 BRAWH2001395, BRAWH2001671, BRAWH2001940, BRAWH2001973,
BRAWH2002560, BRAWH2002761, BRAWH2005315, BRAWH2007658,
BRAWH2010000, BRAWH2010084, BRAWH2010536, BRAWH2012162,
BRAWH2012326, BRAWH2013294, BRAWH2013871, BRAWH2014414,
BRAWH2014645, BRAWH2014662, BRAWH2014876, BRAWH2014954,
15 BRAWH2016221, BRAWH2016439, BRAWH2016702, BRAWH2016724,
BRAWH3000078, BRAWH3000100, BRAWH3000314, BRAWH3000491,
BRAWH3001326, BRAWH3001475, BRAWH3001891, BRAWH3002574,
BRAWH3002600, BRAWH3002819, BRAWH3002821, BRAWH3003522,
BRAWH3003555, BRAWH3003727, BRAWH3003801, BRAWH3003992,
20 BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005422,
BRAWH3005912, BRAWH3005981, BRAWH3006548, BRAWH3006792,
BRAWH3007221, BRAWH3007506, BRAWH3007592, BRAWH3007726,
BRAWH3007783, BRAWH3008341, BRAWH3008697, BRAWH3008931,
BRAWH3009297, BRCAN2002562, BRCAN2002856, BRCAN2002944,
25 BRCAN2002948, BRCAN2003703, BRCAN2003746, BRCAN2003987,
BRCAN2004355, BRCAN2005436, BRCAN2006063, BRCAN2006290,
BRCAN2006297, BRCAN2006450, BRCAN2007144, BRCAN2007409,
BRCAN2007426, BRCAN2008528, BRCAN2009203, BRCAN2009432,
BRCAN2010376, BRCAN2011254, BRCAN2011602, BRCAN2012355,
30 BRCAN2012481, BRCAN2013655, BRCAN2013660, BRCAN2014143,
BRCAN2014602, BRCAN2014881, BRCAN2015371, BRCAN2015464,
BRCAN2016433, BRCAN2016619, BRCAN2017442, BRCAN2017717,
BRCAN2017905, BRCAN2018935, BRCAN2019387, BRCAN2020710,
BRCAN2021028, BRCAN2024451, BRCAN2024563, BRCAN2025712,
35 BRCAN2028355, BRCOC2000670, BRCOC2003213, BRCOC2007034,
BRCOC2014033, BRCOC2016525, BRCOC2019934, BRCOC2020142,

BRHIP2000691, BRHIP2000819, BRHIP2000826, BRHIP2000920,
BRHIP2001074, BRHIP2001805, BRHIP2001927, BRHIP2002122,
BRHIP2002172, BRHIP2002346, BRHIP2003242, BRHIP2003786,
BRHIP2003917, BRHIP2004312, BRHIP2004359, BRHIP2004814,
5 BRHIP2004883, BRHIP2005236, BRHIP2005354, BRHIP2005600,
BRHIP2005719, BRHIP2005752, BRHIP2005932, BRHIP2006800,
BRHIP2007616, BRHIP2007741, BRHIP2009340, BRHIP2009414,
BRHIP2009474, BRHIP2013699, BRHIP2014228, BRHIP2021615,
BRHIP2022221, BRHIP2024146, BRHIP2024165, BRHIP2026061,
10 BRHIP2026288, BRHIP2029176, BRHIP2029393, BRHIP3000339,
BRHIP3000526, BRHIP3001283, BRHIP3006683, BRHIP3007483,
BRHIP3007586, BRHIP3008183, BRHIP3008313, BRHIP3008344,
BRHIP3008405, BRHIP3008565, BRHIP3008598, BRHIP3008997,
BRHIP3009099, BRHIP3009448, BRHIP3011241, BRHIP3013765,
15 BRHIP3013897, BRHIP3015751, BRHIP3016213, BRHIP3018797,
BRHIP3020182, BRHIP3024118, BRHIP3024533, BRHIP3024725,
BRHIP3025161, BRHIP3025702, BRHIP3026097, BRHIP3027137,
BRHIP3027854, BRSSN2000684, BRSSN2003086, BRSSN2004496,
BRSSN2004719, BRSSN2006892, BRSSN2008549, BRSSN2008797,
20 BRSSN2011262, BRSSN2011738, BRSSN2013874, BRSSN2014299,
BRSSN2014424, BRSSN2014556, BRSSN2018581, BRSSN2018925,
BRSTN2000872, BRSTN2001067, BRSTN2001613, BRSTN2002400,
BRSTN2003835, BRSTN2004863, BRSTN2004987, BRSTN2005721,
BRSTN2006865, BRSTN2007000, BRSTN2007284, BRSTN2008052,
25 BRSTN2008283, BRSTN2008418, BRSTN2008457, BRSTN2010363,
BRSTN2010500, BRSTN2010750, BRSTN2012320, BRSTN2012380,
BRSTN2015015, BRSTN2016470, BRSTN2016678, BRSTN2017237,
BRSTN2017771, BRSTN2018083, BRSTN2019129, BRTHA1000311,
BRTHA2000855, BRTHA2001462, BRTHA2002115, BRTHA2002281,
30 BRTHA2002376, BRTHA2002442, BRTHA2002493, BRTHA2002608,
BRTHA2002808, BRTHA2003030, BRTHA2003110, BRTHA2003116,
BRTHA2003461, BRTHA2004821, BRTHA2004978, BRTHA2005579,
BRTHA2005956, BRTHA2006075, BRTHA2006146, BRTHA2006194,
BRTHA2007122, BRTHA2007422, BRTHA2007603, BRTHA2008316,
35 BRTHA2008335, BRTHA2008527, BRTHA2008535, BRTHA2008955,
BRTHA2009311, BRTHA2009846, BRTHA2009972, BRTHA2010073,

BRTHA2010608, BRTHA2010884, BRTHA2010907, BRTHA2011194,
 BRTHA2011351, BRTHA2011500, BRTHA2011641, BRTHA2012392,
 BRTHA2012562, BRTHA2012980, BRTHA2013262, BRTHA2013460,
 BRTHA2013707, BRTHA2014792, BRTHA2014828, BRTHA2015406,
 5 BRTHA2015478, BRTHA2015696, BRTHA2015878, BRTHA2016215,
 BRTHA2016496, BRTHA2016543, BRTHA2017353, BRTHA2017985,
 BRTHA2018165, BRTHA2018344, BRTHA2018591, BRTHA2018624,
 BRTHA2018707, BRTHA2019014, BRTHA2019022, BRTHA2019048,
 BRTHA3000273, BRTHA3000297, BRTHA3000633, BRTHA3001721,
 10 BRTHA3002401, BRTHA3002427, BRTHA3002933, BRTHA3003074,
 BRTHA3003343, BRTHA3003449, BRTHA3003474, BRTHA3003490,
 BRTHA3004475, BRTHA3005046, BRTHA3006856, BRTHA3007113,
 BRTHA3007148, BRTHA3007319, BRTHA3007769, BRTHA3008143,
 BRTHA3008310, BRTHA3008386, BRTHA3008520, BRTHA3008778,
 15 BRTHA3009037, BRTHA3009090, BRTHA3009291, BRTHA3010366,
 BRTHA3013884, BRTHA3015815, BRTHA3015910, BRTHA3016845,
 BRTHA3016917, BRTHA3017047, BRTHA3017589, BRTHA3017848,
 BRTHA3018514, BRTHA3018617, BRTHA3018656, BRTHA3019105,
 COLON2001721, CTONG1000087, CTONG1000088, CTONG1000467,
 20 CTONG2000042, CTONG2008233, CTONG2009423, CTONG2017500,
 CTONG2019248, CTONG2019788, CTONG2020522, CTONG2023021,
 CTONG2028124, CTONG3000657, CTONG3001123, CTONG3001370,
 CTONG3002412, CTONG3004072, CTONG3005813, CTONG3008894,
 CTONG3009028, CTONG3009239, CTONG3009328, DFNES2000146,
 25 DFNES2011239, DFNES2011499, FCBBF1000297, FCBBF2001183,
 FCBBF3001977, FCBBF3002163, FCBBF3003435, FCBBF3004502,
 FCBBF3004847, FCBBF3006171, FCBBF3007242, FCBBF3007540,
 FCBBF3008944, FCBBF3009888, FCBBF3012170, FCBBF3012288,
 FCBBF3013307, FCBBF3013846, FCBBF3021576, FCBBF3021940,
 30 FCBBF3023443, FCBBF3023895, FCBBF3025730, FCBBF3027717,
 FCBBF4000076, FEBRA1000030, FEBRA2000253, FEBRA2006396,
 FEBRA2007544, FEBRA2007708, FEBRA2007793, FEBRA2007801,
 FEBRA2008287, FEBRA2008311, FEBRA2008360, FEBRA2008468,
 FEBRA2010719, FEBRA2014213, FEBRA2015588, FEBRA2020484,
 35 FEBRA2020582, FEBRA2020668, FEBRA2020886, FEBRA2021339,
 FEBRA2021571, FEBRA2021908, FEBRA2021966, FEBRA2024136,

FEBRA2024150, FEBRA2024343, FEBRA2024744, FEBRA2025427,
 FEBRA2026984, FEBRA2027082, FEBRA2027297, FEBRA2027352,
 FEBRA2028366, FEBRA2028477, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000212, HCHON2000244, HCHON2000626,
 5 HCHON2001084, HCHON2001217, HCHON2002676, HCHON2005921,
 HCHON2006250, HCHON2007881, HCHON2008112, HEART1000074,
 HEART2007031, HHDPC1000118, HLUNG2001996, HLUNG2002465,
 HLUNG2003003, HSYRA2009075, IMR322000127, IMR322000917,
 IMR322001380, IMR322002035, KIDNE2000665, KIDNE2002252,
 10 KIDNE2005543, KIDNE2006580, KIDNE2011314, MESAN2006563,
 MESAN2012054, MESAN2015515, MESTC1000042, NB9N41000340,
 NESOP2001752, NHNPC2001223, NOVAR2001783, NT2NE2005890,
 NT2NE2006909, NT2NE2008060, NT2RI2003993, NT2RI2005166,
 NT2RI2008724, NT2RI2012659, NT2RI2014733, NT2RI2018311,
 15 NT2RI2019751, NT2RI3000622, NT2RI3001515, NT2RI3002842,
 NT2RI3002892, NT2RI3003382, NT2RI3004510, NT2RI3005403,
 NT2RI3005724, NT2RI3006284, NT2RI3006673, NT2RI3007291,
 NT2RI3007543, NT2RI3008055, NT2RP7004123, NT2RP7005529,
 NT2RP7009030, NT2RP7009147, NT2RP7010599, NT2RP7014005,
 20 NT2RP7015512, NT2RP7017474, NTONG2000413, NTONG2005969,
 NTONG2008088, OCBBF1000254, OCBBF2001794, OCBBF2002124,
 OCBBF2003819, OCBBF2004826, OCBBF2004883, OCBBF2005428,
 OCBBF2006005, OCBBF2006058, OCBBF2006151, OCBBF2006567,
 OCBBF2006764, OCBBF2007028, OCBBF2007068, OCBBF2007114,
 25 OCBBF2007428, OCBBF2007478, OCBBF2007610, OCBBF2008770,
 OCBBF2009788, OCBBF2009926, OCBBF2010140, OCBBF2010416,
 OCBBF2017516, OCBBF2019327, OCBBF2019823, OCBBF2020343,
 OCBBF2020453, OCBBF2020639, OCBBF2020741, OCBBF2020801,
 OCBBF2020838, OCBBF2021020, OCBBF2021286, OCBBF2021323,
 30 OCBBF2021788, OCBBF2022351, OCBBF2022574, OCBBF2023162,
 OCBBF2023643, OCBBF2024719, OCBBF2024781, OCBBF2024850,
 OCBBF2025028, OCBBF2025458, OCBBF2025527, OCBBF2025730,
 OCBBF2026645, OCBBF2027423, OCBBF2027478, OCBBF2028173,
 OCBBF2028935, OCBBF2029901, OCBBF2030354, OCBBF2030517,
 35 OCBBF2030574, OCBBF2030708, OCBBF2031167, OCBBF2031366,
 OCBBF2032590, OCBBF2032599, OCBBF2032611, OCBBF2032671,

OCBBF2033869, OCBBF2035110, OCBBF2035214, OCBBF2035564,
 OCBBF2035885, OCBBF2035916, OCBBF2036476, OCBBF2036743,
 OCBBF2037068, OCBBF2037340, OCBBF2037398, OCBBF2037547,
 OCBBF2037598, OCBBF2037638, OCBBF2038317, OCBBF3000296,
 5 OCBBF3000483, OCBBF3002553, OCBBF3002600, OCBBF3003320,
 OCBBF3003592, OCBBF3004314, OCBBF3006802, OCBBF3007516,
 OCBBF3008230, OCBBF3009279, PEBLM2004666, PERIC2000889,
 PERIC2002766, PERIC2003720, PLACE6001185, PLACE6019385,
 PUAEN2002489, PUAEN2005930, PUAEN2006701, PUAEN2007044,
 10 PUAEN2009174, PUAEN2009655, RECTM2001347, SKMUS2000757,
 SKNMC2002402, SKNSH2000482, SMINT2001818, SPLEN2001599,
 SPLEN2002467, SPLEN2006122, SPLEN2010912, SPLEN2012624,
 SPLEN2025491, SPLEN2027268, SPLEN2028914, SPLEN2029912,
 SPLEN2031424, SPLEN2031547, SPLEN2032154, SPLEN2034781,
 15 SPLEN2036821, SPLEN2036932, SPLEN2037194, SPLEN2038345,
 SPLEN2042303, SYNOV1000374, SYNOV2005216, SYNOV2014400,
 SYNOV4002346, SYNOV4002883, SYNOV4007430, SYNOV4007671,
 SYNOV4008440, TESOP2001605, TESOP2002273, TESOP2002451,
 TESOP2002950, TESTI1000330, TESTI2003573, TESTI2009474,
 20 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4000349,
 TESTI4001100, TESTI4001561, TESTI4002290, TESTI4002647,
 TESTI4005857, TESTI4006137, TESTI4006326, TESTI4008797,
 TESTI4009286, TESTI4010377, TESTI4010851, TESTI4010928,
 TESTI4011161, TESTI4012702, TESTI4013675, TESTI4013817,
 25 TESTI4014159, TESTI4014175, TESTI4014306, TESTI4014694,
 TESTI4014818, TESTI4019843, TESTI4021478, TESTI4022936,
 TESTI4024420, TESTI4027821, TESTI4029836, TESTI4037156,
 TESTI4037188, TESTI4046819, THYMU2001090, THYMU2011736,
 THYMU2014353, THYMU2016204, THYMU2016523, THYMU2023967,
 30 THYMU2025707, THYMU2030264, THYMU2031341, THYMU2031890,
 THYMU2032696, THYMU2032825, THYMU2033308, THYMU2033787,
 THYMU2034374, THYMU2035735, THYMU2037226, THYMU2039315,
 THYMU2039780, THYMU2040975, THYMU3001083, THYMU3001234,
 THYMU3001379, THYMU3003309, THYMU3004835, THYMU3006485,
 35 THYMU3007137, THYMU3008171, TKIDN2009641, TKIDN2009889,
 TKIDN2010934, TKIDN2013287, TKIDN2015788, TLIVE2001327,

TLIVE2004320, TRACH1000205, TRACH2001443, TRACH2001549,
 TRACH2001684, TRACH2005811, TRACH2006049, TRACH2007834,
 TRACH2008300, TRACH2023299, TRACH2025344, TRACH2025535,
 TRACH2025911, TRACH3000014, TRACH3001427, TRACH3002192,
 5 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3006038,
 TRACH3006412, TRACH3007479, TRACH3008093, TRACH3009455,
 TSTOM1000135, TUTER1000122, TUTER2000904, UTERU2002410,
 UTERU2004929, UTERU2005621, UTERU2006115, UTERU2007520,
 UTERU2014678, UTERU2019706, UTERU2019940, UTERU2021163,
 10 UTERU2023039, UTERU2023175, UTERU2026203, UTERU2030213,
 UTERU2030280, UTERU3000226, UTERU3000899, UTERU3001571,
 UTERU3001572, UTERU3001766, UTERU3003135, UTERU3004709,
 UTERU3005230, UTERU3005460, UTERU3005907, UTERU3005970,
 UTERU3006308, UTERU3007419, UTERU3007640, UTERU3007913,
 15 UTERU3009259, UTERU3009517, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2002589, BRACE2003609,
 BRACE2009318, BRACE2011677, BRACE2029396, BRACE2037299,
 BRACE2039823, BRACE2039832, BRACE2043105, BRACE3001058,
 BRACE3001113, BRACE3003026, BRACE3003053, BRACE3009127,
 20 BRACE3010076, BRACE3015829, BRACE3021148, BRALZ2017844,
 BRAMY2019111, BRAMY2035070, BRAMY2035449, BRAMY2035718,
 BRAMY2038516, BRAMY2039341, BRAMY2040159, BRAMY2041434,
 BRAMY2045471, BRAMY3004800, BRAWH1000369, BRAWH2006207,
 BRAWH2006395, BRAWH2008993, BRAWH2009393, BRAWH2010552,
 25 BRAWH3007441, BRAWH3009017, BRCAN2002473, BRCAN2002854,
 BRCAN2003070, BRCAN2014229, BRCOC2019841, BRHIP2002722,
 BRHIP2003272, BRHIP2005271, BRHIP2005724, BRHIP2006617,
 BRHIP2008389, BRHIP2012360, BRHIP2017553, BRHIP2026877,
 BRHIP3000017, BRHIP3000240, BRHIP3008314, BRHIP3026052,
 30 BRSTN2013354, BRTHA2002133, BRTHA2002702, BRTHA2007060,
 BRTHA2010033, BRTHA2011321, BRTHA2013426, BRTHA2013610,
 BRTHA2016318, BRTHA2017364, BRTHA2017972, BRTHA2018011,
 BRTHA2018443, BRTHA3000296, BRTHA3003000, BRTHA3008826,
 CTONG2008721, CTONG2020374, CTONG2020378, CTONG2020411,
 35 CTONG2024031, CTONG3004726, FCBBF1000509, FCBBF3010361,
 FCBBF3027854, FEBRA2000790, FEBRA2001990, FEBRA2006519,

FEBRA2008692, FEBRA2014122, FEBRA2027609, FEBRA2028516,
 HCASM2003018, HCHON2000508, HCHON2000743, HCHON2004858,
 HSYRA2005628, IMR322001879, NT2RI2009583, NT2RP8000521,
 OCBBF2003327, OCBBF2005433, OCBBF2006987, OCBBF2008144,
 5 OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2020048,
 OCBBF2030116, OCBBF2032274, OCBBF2034637, OCBBF3002654,
 OCBBF3003761, OCBBF3004972, PERIC2007068, PUAEN2006335,
 SPLEN2016932, SPLEN2039379, SYNOV2006620, SYNOV2021953,
 TESTI1000266, TESTI2015626, TESTI2026647, TESTI4000214,
 10 TESTI4001984, TESTI4008058, TESTI4013894, TESTI4015442,
 TESTI4017714, TESTI4025268, TESTI4025547, TESTI4026207,
 TESTI4032090, THYMU2004284, THYMU2040925, THYMU3000360,
 TKIDN2018926, TLIVE2002046, TRACH3000134, UTERU2008040,
 UTERU2011220, UTERU2021820, UTERU2028734

15 The result of comparative analysis of cDNA libraries
 derived from fetal heart (FEHRT) and adult heart (HEART) (Table
 22) showed that the genes whose expression levels differed
 between the two were the 34 and two clones listed below.

BRAMY2040592, BRAWH2001671, BRSTN2016470, CTONG2017500,
 20 CTONG2028124, CTONG3000657, D3OST3000169, FEBRA2008287,
 HCHON2000244, HCHON2000626, HEART1000010, HEART1000074,
 HEART1000088, HEART1000139, HEART2001680, HEART2001756,
 HEART2006131, HEART2006909, HEART2007031, HEART2010391,
 HEART2010492, HEART2010495, KIDNE2000665, NB9N41000340,
 25 NT2RI2003993, NT2RI3002892, OCBBF2024850, SKMUS2006394,
 SMINT2001818, TESTI4000209, TKIDN2015788, TRACH3002192,
 TRACH3005294, TRACH3007479
 HEART2009680, THYMU2004284

30 The result of comparative analysis of cDNA libraries
 derived from fetal kidney (FEKID) and adult kidney (KIDNE)
 (Table 23) showed that the genes whose expression levels
 differed between the two were the 40 and two clones listed below.

BRACE2043665, BRACE3010428, BRSTN2016470, CTONG1000087,
 CTONG2028124, CTONG3008894, HCASM2003415, HCHON2000244,
 35 HEART1000074, HHDPC1000118, KIDNE1000064, KIDNE2000665,
 KIDNE2000722, KIDNE2000832, KIDNE2000846, KIDNE2001361,

KIDNE2001847, KIDNE2002252, KIDNE2002991, KIDNE2003837,
 KIDNE2005543, KIDNE2006580, KIDNE2010264, KIDNE2011314,
 KIDNE2011532, KIDNE2011635, KIDNE2012945, KIDNE2013095,
 PEBLM2004666, PLACE6019385, STOMA1000189, SYNOV4007671,
 5 TBAES2001258, TESOP2002451, TESTI4000014, TESTI4012702,
 THYMU2032014, TRACH2001684, TRACH2007834, UTERU2023175
 NT2RI2009583, OCBBF2008144

The result of comparative analysis of cDNA libraries
 derived from fetal lung (FELNG) and adult lung (HLUNG) (Table
 10 24) showed that the genes whose expression levels differed
 between the two were the 51 and eight clones listed below.

BRAWH3007592, BRCAN2021028, BRHIP2000819, BRSTN2016470,
 CTONG1000087, CTONG2028124, HCASM2007047, HEART1000074,
 HLUNG1000017, HLUNG2000014, HLUNG2001996, HLUNG2002465,
 15 HLUNG2002958, HLUNG2003003, HLUNG2003872, HLUNG2010464,
 HLUNG2011041, HLUNG2011298, HLUNG2012049, HLUNG2012287,
 HLUNG2012727, HLUNG2013204, HLUNG2013304, HLUNG2013622,
 HLUNG2013851, HLUNG2014262, HLUNG2014288, HLUNG2014449,
 HLUNG2015617, HLUNG2017350, HLUNG2017546, HLUNG2017806,
 20 HLUNG2019058, HSYRA2008376, KIDNE2012945, NT2RI2003993,
 NT2RI3007543, OCBBF3000483, SMINT1000192, SPLEN2028914,
 SPLEN2031547, STOMA1000189, SYNOV4007671, TESOP1000127,
 TESTI2003573, TESTI4000014, TESTI4037156, TRACH2005811,
 TRACH3004068, UTERU2005621, UTERU2023175
 25 FEBRA2028516, HCHON2000508, HLUNG2013350, HLUNG2015418,
 HLUNG2015548, HLUNG2016862, TESTI2015626, TRACH2019672

These genes are involved in regeneration of tissues and/or
 cells.

For example, if a polypeptide encoded by a cDNA of the
 30 present invention is a regulatory factor for cellular conditions
 such as growth and differentiation, it can be used for
 developing medicines as follows. The polypeptide or antibody
 provided by the present invention is injected into cells using
 microinjection, and then low molecular weight compounds and such
 35 can be screened by using, as an index, change in cellular
 conditions (such as growth and differentiation), or

activation/inhibition of a particular gene in the cell. The screening can be performed as follows.

A polypeptide of the present invention is first expressed and purified as a recombinant. This purified polypeptide is then microinjected into cells such as various cell lines, or primary culture cells, and cellular changes such as growth and differentiation are examined. Alternatively, induction of a gene whose expression is known to be involved in the change of a particular cellular condition may be detected using mRNA or polypeptide amounts. Alternatively, the amount of an intracellular molecule (low molecular weight compounds, etc.) may be detected, where that amount is changed by the function of a gene product (polypeptide) known to influence change in a particular cellular condition. The compounds to be screened (including both low and high molecular compounds) can be added to culture media and screened using, as an index, their ability to change a cellular condition.

Cell lines introduced with a gene of the present invention can be used for screening, even without microinjection. If the product of a gene of the present invention is revealed to be involved in a particular change in cellular conditions, the change in that product can be used as an index for screening. Once a compound which can activate or inhibit the function of a polypeptide of the present invention has been developed using this screening, such a compound can be practically applied in medicines.

If a polypeptide encoded by a cDNA of the present invention is a secretory or membrane protein, or a protein involved in signal transduction, glycoproteins, transcription, or disease, it can be used in functional assays for developing medicines as described below.

In case of a membrane protein, the polypeptide is very likely to function as a receptor or ligand on the cell surface. Therefore, it is possible to reveal new ligand-receptor relationships by screening membrane proteins of the present invention, based on binding activity with known or new ligands

or receptors. Screening can be performed according to known methods.

For example, a ligand against a polypeptide of the present invention can be screened in the following manner. Namely, a
5 ligand that binds to a specific polypeptide can be screened using a method comprising the steps of: (a) contacting a test sample with a polypeptide of the present invention, or partial peptide thereof, or cells expressing such, and (b) selecting a
10 test sample that binds to said polypeptide, said partial peptide, or said cells.

Screening using cells expressing receptor polypeptides of the present invention can also be performed, for example, as follows. Receptors capable of binding to a specific polypeptide can be screened by (a) attaching sample cells to a polypeptide
15 of the present invention or its partial peptide, and (b) selecting cells that can bind to the said polypeptide or its partial peptide.

For example, screening can be carried out as follows: a polypeptide of the present invention is first expressed, the
20 recombinant polypeptide is purified and labeled, a binding assay is performed using various cell lines or primary cultured cells, and cells that express the receptor are selected (Growth and differentiation factors and their receptors, Shin-Seikagaku Jikken Kouza Vol.7 (1991) Honjyo, Arai, Taniguchi, and Muramatsu
25 edit, p203-236, Tokyo-Kagaku-Doujin). A polypeptide of the present invention can be labeled with RI such as ^{125}I , and enzyme (alkaline phosphatase etc.).

Alternatively, a polypeptide of the present invention may be used without labeling and then detected by using a labeled
30 antibody against that polypeptide. Cells expressing a receptor polypeptide of the present invention, and selected using the above screening methods, can be applied as mentioned below to screen agonists or antagonists of that receptor.

Once a ligand binding to a polypeptide of the present
35 invention, a receptor of that polypeptide, or cells expressing that receptor have been obtained by screening as described above,

a compound binding to that ligand or receptor can be screened. It is also possible to screen a compound that can inhibit both bindings (agonists or antagonists of the receptor, for example) by using this binding activity as an index.

5 When a polypeptide of the present invention is a receptor, the screening method comprises the steps of (a) contacting the ligand with a polypeptide of the present invention, or cells expressing that polypeptide, in the presence of a test sample, (b) detecting binding activity between that polypeptide or cells
10 expressing that polypeptide and the ligand, and (c) selecting a compound that can reduce that binding activity when compared to activity in the absence of the test sample. Furthermore, when a polypeptide of the present invention is a ligand, the screening method comprises the steps of (a) contacting the polypeptide of
15 the present invention with its receptor or cells expressing that receptor, in the presence of a test sample, (b) detecting binding activity between the polypeptide and its receptor, or cells expressing that receptor, and (c) selecting a compound that can reduce that binding activity compared to activity in
20 the absence of the test sample.

 Examples of test samples to screen include, but are not limited to, cell extracts, expressed gene library products, synthesized low molecular compounds, synthesized peptides, and natural compounds. A compound that is isolated by the above
25 screening can also be used as a test sample, using binding activity with a polypeptide of the present invention as an index.

 A compound isolated using this screening may be a candidate agonist or antagonist of a polypeptide or polypeptide receptor of the present invention. By monitoring changes in
30 intracellular signals, such as phosphorylation due to reduced binding between a polypeptide and its receptor, it is possible to identify whether the obtained compound is an agonist or antagonist of the polypeptide receptor of the present invention. Also, the screened compound may be a candidate for a compound
35 that can inhibit interaction between a polypeptide and its associated molecules (including receptors) *in vivo*. The

polypeptides of this invention, receptors that bind to those polypeptides or ligands, and compounds thereof, can be applied in the development of preventative, therapeutic or testing agents for diseases in which the polypeptides of the present invention are involved.

Secretory proteins may regulate cellular conditions such as growth and differentiation. A novel factor that regulates cellular conditions can be found by i) adding a secretory protein of the present invention to a certain kind of cell, and ii) screening using as an index cellular changes in growth or differentiation, or activation of a particular gene.

Screening can be performed, for example, as follows. First, a polypeptide of the present invention is expressed and purified in a recombinant form. Then, the purified polypeptide is added to various cell lines or primary cultured cells, and changes in cell growth and differentiation are monitored. The induction of a particular gene known to be involved in a certain cellular change is detected using mRNA and polypeptide amounts. Alternatively, detection can be carried out using the amount of an intracellular molecule (low-molecular-weight compounds, etc.) changed by the action of a gene product (polypeptide) which influences a certain cellular change.

If screening reveals that a polypeptide of the present invention can regulate cellular conditions or functions, it is possible to apply that polypeptide as a pharmaceutical and diagnostic medicine for related diseases, either directly or by altering a part of it into an appropriate composition.

As for membrane proteins as described above, a secretory protein provided by the present invention may be used to explore a novel ligand-receptor interaction by screening based on binding activity to a known or new ligand or receptor. A similar method can be used to identify an agonist or antagonist. Compounds obtained by these methods are candidate compounds for inhibiting the interaction between the polypeptide of the present invention and an interacting molecule (including receptors). These compounds may be applied as preventive,

therapeutic, or testing agents for diseases in which the polypeptide plays a role.

Proteins involved in signal transduction or transcription may be factors that affect a certain polypeptide or gene in response to intra- or extra-cellular stimuli. A novel factor able to affect a polypeptide or gene can be found by expressing a polypeptide provided by the present invention in a certain type of cell, and screening using as an index the activation of a certain intracellular polypeptide or gene.

Screening may be performed as follows. First, a transformed cell line which expresses a polypeptide of the present invention is obtained. Then, changes in a certain gene between the transformed and the original untransformed cell lines are detected using mRNA or polypeptide amounts. Alternatively, detection may be carried out using the amount of an intracellular molecule (low molecular weight compounds, etc.) changed by the function of a certain gene product (polypeptide). Furthermore, change in expression of a certain gene can be detected by estimating the activity of a marker gene product (polypeptide), where the polypeptide of the present invention is expressed in a cell that has been introduced with a fusion gene comprising a regulatory region of the certain gene and a marker gene (luciferase, β -galactosidase, etc.).

If the polypeptide or gene influenced by a protein of the present invention is involved in disease, it is possible to screen a gene or compound that can regulate that polypeptide or gene's expression and/or activity, either directly or indirectly, by utilizing a polypeptide of the present invention.

For example, a polypeptide of the present invention is expressed and purified as a recombinant polypeptide, and a polypeptide or gene that interacts with that polypeptide is purified and screened based on binding. Alternatively, changes in binding activity can be monitored after adding a candidate inhibitor compound. In another method, the 5'-upstream transcription regulatory region of a gene that encodes a polypeptide of the present invention and that can regulate the

expression of another gene, is obtained. The gene is fused with a marker gene and then introduced into a cell, compounds and the like are added, and a factor which can regulate expression of that gene can be discovered.

5 A compound obtained by this screening can be used for developing pharmaceutical medicines for a disease in which a polypeptide of the present invention is involved. Similarly, if a regulatory factor obtained by screening turns out to be a polypeptide, compounds that can newly affect the expression or
10 activity of this polypeptide may be used as a medicine for diseases in which the polypeptide of the present invention is involved.

 If a polypeptide of the present invention has enzymatic activity, regardless of whether it is a secretory protein,
15 membrane protein, or a protein involved in signal transduction, glycoprotein, transcription, or disease, screening may be performed by adding a compound to the polypeptide of the present invention under suitable conditions, and monitoring that compound's change. This enzymatic activity may also be used as
20 an index to screen a compound that inhibits the polypeptide activity.

 In an example of this screening, a polypeptide of the present invention is expressed and the recombinant polypeptide is purified. Then, compounds are contacted with the purified
25 polypeptide, and the amount of compound and reaction product is examined. Alternatively, inhibitor candidate compounds are added, then a compound (substrate) that reacts with the purified polypeptide is added, and change in the amount of substrate and reaction product is examined.

30 A compound obtained by screening may be used as a medicine for diseases in which a polypeptide of the present invention is involved. Also such a compound can be applied in tests that examine, for example, whether a polypeptide of the invention functions normally *in vivo*.

35 Whether a secretory protein, membrane protein, signal transduction-related protein, glycoprotein-related protein, or

transcription-related protein of the present invention is a novel protein involved in disease or not is determined using different method to that described above. In this method, a specific antibody against a polypeptide of the present invention is obtained, and the relationship between the expression or activity of the polypeptide and a certain disease is examined. Alternatively, analysis can use the methods in "Molecular Diagnosis of Genetic Diseases" as a reference (Elles R. edit, (1996) in the series of "Method in Molecular Biology" (Humana Press).

Proteins involved in disease are very useful in developing drugs which regulate their expression and activity, and become targets of the above-mentioned screenings. They are also useful in the medicinal industry as diagnostic markers for their related disease, or as gene therapy targets.

A compound isolated as mentioned above can be administered to patients as is, or after being formulated into a pharmaceutical composition according to known methods. Specific examples of pharmaceutically acceptable carriers or vehicles include sterilized water, saline, plant oils, emulsifiers, suspending agents and the like, where they are mixed with the compound appropriately. The pharmaceutical compositions can be administered to patients by a method known to those skilled in the art, such as intraarterial, intravenous, or subcutaneous injection. Dosage may vary depending on the weight or age of a patient, or the method of administration, but those skilled in the art can properly choose an appropriate dosage. If a compound is encoded by a polynucleotide, the polynucleotide can be cloned into a gene therapy vector, and used for gene therapy. Those skilled in the art can properly choose the dosage of the polynucleotide and the method of its administration, and these may vary depending on the weight, age or symptoms of a patient.

The present invention further relates to databases comprising at least one sequence of a polynucleotide and/or polypeptide, or a medium recorded in such databases, selected from the sequence data of the nucleotides and/or amino acids

indicated in Table 1. The term "database" means a set of accumulated, machine-searchable and readable nucleotide sequence information. The databases of the present invention comprise at least one of the novel nucleotide sequences of the polynucleotides provided by the present invention. The databases of the present invention can consist only of the sequence data of the novel polynucleotides provided by the present invention, or can comprise other information on known nucleotide sequences of full-length cDNAs or ESTs. The databases of the present invention can be comprised of not only information on nucleotide sequences, but also information on gene functions as revealed by the present invention. Additional information such as the names of DNA clones carrying the full-length cDNAs can be recorded or linked together with the sequence data in the databases.

The database of the present invention is useful for gaining complete gene sequence information from the partial sequence information of a gene of interest. The database of the present invention comprises nucleotide sequence information of full-length cDNAs. Consequently, by comparing information in this database with the nucleotide sequence of a partial gene fragment yielded by differential display method or subtraction method, information on the full-length nucleotide sequence of interest can be gained from the sequence of the partial fragment as a starting clue.

Sequence information of the full-length cDNAs constituting the database of the present invention contains information on not only complete sequences, but also on gene expression frequency and gene homology to known genes and polypeptides. This extra information facilitates rapid functional analyses of partial gene fragments. Further, information on human genes is accumulated in the database of the present invention, and therefore, the database is useful for isolating a human homologue of a gene originating from another species. The human homologue can be isolated based on the nucleotide sequence of the gene from the original species.

At present, information on a wide variety of gene fragments can be obtained by differential display method and subtraction method. In general, these gene fragments are utilized as tools for isolating the full-length sequences thereof. When the gene
5 fragment corresponds to a known gene, the full-length sequence is easily obtained by comparing the partial sequence with the information in known databases. However, when there is no information corresponding to the partial sequence of interest in known databases, cDNA cloning should be carried out for the
10 full-length cDNA. It is often difficult to obtain the full-length nucleotide sequence using partial sequence information as an initial clue. If the full-length gene is not available, the amino acid sequence of the polypeptide encoded by that gene remains unidentified. Thus the database of the present
15 invention can contribute to the identification of full-length cDNAs corresponding to gene fragments, which cannot be revealed using databases of known genes.

The present invention has provided 2,495 polynucleotides. In humans, where isolation of full-length cDNA has not
20 progressed, the provision of new full-length cDNAs has great significance. Secretory proteins, membrane proteins, signal transduction-related proteins, glycoprotein-related proteins, transcription-related proteins, and so on are known to be involved in many diseases. The genes and proteins involved in
25 diseases are useful for developing diagnostic markers or medicines for regulation of their expression and activity, or as a gene therapy target.

In particular, cDNA encoding secretory proteins of the present invention are extremely important to the industry since
30 these proteins are expected to be useful as pharmaceutical agents, and many disease-related genes can be included with them. In addition, membrane proteins, signal transduction-related proteins, transcription-related proteins, disease-related proteins, and genes encoding these proteins can be used as
35 disease indexes, etc. These cDNAs are also very important to the industry, and are expected to be effective in treating

diseases and the like by regulating the activity or expression of the proteins they encode.

Human cDNAs involved in various diseases, morbid states, or functions were isolated in the present invention. The cDNAs of the present invention include, for example, genes that can be useful as diagnostic markers or therapeutic targets for the diseases or morbid states shown below. These diseases receive widespread attention, and require the development of new technology for treatment and diagnosis.

- 10 • osteoporosis
- neurologic diseases
- Alzheimer's disease
- Parkinson's disease
- dementia
- 15 • various cancers

In addition, human cDNAs involved in the functions shown below were isolated in the present invention. These genes can be used to elucidate the mechanisms of various functions, and in therapeutic methods which enhance or repress those functions. For example, genes participating in tissue generation and functional expression can be used in regenerative medicines.

- emotional reaction
- tissue generation and functional expression
- motor function controlled by the brain, signaling function controlled by the brain
- 25 • emotional reaction, fear response, and panic

Furthermore, information on the nucleotide sequence of the full-length cDNAs or their full-length amino acid sequences as provided by the present invention can be used to isolate human genes based on partial sequence information obtained by functional analysis of various genes, or from sequence information of genes from non-human organisms.

Any patents, patent applications, and publications cited herein are incorporated by reference.

35 The present invention is illustrated more specifically with reference to the following examples, but is not to be

construed as being limited thereto.

EXAMPLE 1

Preparation of cDNA library by oligo-capping

5 (1) Extraction and purchase of mRNA

Total RNAs as mRNA sources were extracted from human tissues (shown below) by the method described in the reference (J. Sambrook, E. F. Fritsch & T. Maniatis, Molecular Cloning Second edition, Cold Spring harbor Laboratory Press, 1989).
 10 Further, by the method described in the reference (J. Sambrook, E. F. Fritsch & T. Maniatis, Molecular Cloning Second edition, Cold Spring harbor Laboratory Press, 1989), total RNAs as mRNA sources were extracted from human culture cells and human primary culture cells (shown below) cultivated by the methods
 15 described in the catalogs.

The library names and origins are indicated below in the order of "Library name: Origin". When a library was prepared by the subtraction method, the item is followed by a description of how to prepare the subtracted library.

20 <Extraction of mRNA from human tissues>

NTONG: Normal tongue;

CTONG: Tongue cancer;

FCBBF: Fetal brain;

OCBBF: Fetal brain;

25 PLACE: Placenta;

SYNOV: Synovial membrane tissue (from rheumatioid arthritis);

CORDB: Cord blood.

<Extraction of mRNA from culture cells>

BNGH4: H4 cells (ATCC #HTB-148);

30 IMR32: IMR32 cells (ATCC #CCL-127);

SKNMC: SK-N-MC cells (ATCC #HTB-10);

3NB69: NB69 cells (RCB #RCB0480);

BGGI1: GI1 cells (RCB #RCB0763);

NB9N4: NB9 cells (RCB #RCB0477);

35 SKNSH: SK-N-SH cells (RCB #RCB0426);

AHMSC: Human mesenchymal cells (HMSC);

- CHONS: Chondrocytes;
 ERLTF: TF-1 cells (Erythroleukemia);
 HELAC: HeLa cells;
 JCMLC: Myelogenous leukemia cells;
 5 MESTC: Mesenchyme stem cells;
 N1ESE: Mesenchymal stem cells;
 NCRRM: Embryonal carcinomas;
 NCRRP: Embryonal carcinomas treated with retinoic acid (RA) to induce the differentiation;
 10 T1ESE: Mesenchymal stem cells treated with trichostatin and 5-azacytidine to induce the differentiation;
 NT2RM: NT2 cells (STARATAGENE #204101);
 NT2RP: NT2 cells treated with RA for 5 weeks to induce the differentiation;
 15 NT2RI: NT2 cells treated with RA for 5 weeks to induce the differentiation, followed by the treatment with the growth inhibitor for 2 weeks;
 NT2NE: NT2 cells were treated with RA and the growth inhibitor for the neuronal differentiation, and the resultant neurons were concentrated and harvested (NT2 Neuron);
 20 NTISM: NT2 cells (STARATAGENE #204101) were treated with RA for five weeks to induce the differentiation, and then treated with the growth inhibitor for two weeks; mRNA was prepared from the cells and a cDNA library was constructed from the mRNA; the cDNA
 25 libraries whose nucleotide sequences were shared by those of mRNAs from undifferentiated NT2 cells were subtracted by using a Subtract Kit (Invitrogen #K4320-01); the subtracted library (NT2RI-NT2RM) was provided by this procedure.
- RCB indicates that the cell was provided by the Cell Bank,
 30 RIKEN GENE BANK, The Institute of Physical and Chemical Research; ATCC indicates that the cell was provided by American Type Culture Collection.
- <Extraction of mRNA from primary culture cells>
- ASTRO: Normal human astrocyte NHA5732, Takara Shuzo #CC2565;
 35 DFNES: Normal human dermal fibroblast (neonatal skin); NHDF-Neo NHDF2564, Takara Shuzo #CC2509;

- MESAN: Normal human mesangial cell NHMC56046-2, Takara Shuzo #CC2559;
- NHNPC: Normal human neural progenitor cell NHNP5958, Takara Shuzo #CC2599;
- 5 PEBLM: Normal human peripheral blood mononuclear cell HPBMC5939, Takara Shuzo #CC2702;
- HSYRA: Human synoviocyte HS-RA (from rheumatoid arthritis), Toyobo #T404K-05;
- PUAEN: Normal human pulmonary artery endothelial cells, Toyobo
- 10 #T302K-05;
- UMVEN: Normal human umbilical vein endothelial cell HUVEC, Toyobo #T200K-05;
- HCASM: Normal human coronary artery smooth muscle cell HCASMC, Toyobo #T305K-05;
- 15 HCHON: Normal human chondrocyte HC, Toyobo #T402K-05;
- HHDPC: Normal human dermal papilla cell HDPC, Toyobo #THPCK-001;
- CD34C: CD34+ cells (AllCells, LLC #CB14435M);
- D3OST: CD34+ cells treated with the osteoclast differentiation factor (ODF) for three days to induce the differentiation;
- 20 D6OST: CD34+ cells treated with ODF for six days to induce the differentiation;
- D9OST: CD34+ cells treated with ODF for nine days to induce the differentiation;
- ACTVT: Activated T-cells;
- 25 LYMPB: Lymphoblasts (EB virus transferred B cells);
- NETRP: Neutrophils.

Total RNAs extracted from the following human tissues were then purchased and used as mRNA sources. Library names and the origins are indicated below in the order of "Library name:

30 Origin". When a library was prepared by the subtraction method, the item is followed by a description of how to prepare the subtracted library.

<Purchase of total RNA containing mRNA extracted from human tissues>

- 35 ADRGL: Adrenal gland, CLONTECH #64016-1;
- BRACE: Brain (cerebellum), CLONTECH #64035-1;

BRAWH: Whole brain, CLONTECH #64020-1;
 FEBRA: Fetal brain, CLONTECH #64019-1;
 FELIV: Fetal liver, CLONTECH #64018-1;
 HEART: Heart, CLONTECH #64025-1;
 5 HLUNG: Lung, CLONTECH #64023-1;
 KIDNE: Kidney, CLONTECH #64030-1;
 LIVER: Liver, CLONTECH #64022-1;
 MAMGL: Mammary Gland, CLONTECH #64037-1;
 PANCR: Pancreas, CLONTECH #64031-1;
 10 PROST: Prostate, CLONTECH #64038-1;
 SALGL: Salivary Gland, CLONTECH #64026-1;
 SKMUS: Skeletal Muscle, CLONTECH #64033-1;
 SMINT: Small Intestine, CLONTECH #64039-1;
 SPLEN: Spleen, CLONTECH #64034-1;
 15 STOMA: Stomach, CLONTECH #64090-1;
 TBAES: Breast (Tumor), CLONTECH #64015-1;
 TCERX: Cervix (Tumor), CLONTECH #64010-1;
 TCOLN: Colon (Tumor), CLONTECH #64014-1;
 TESTI: Testis, CLONTECH #64027-1;
 20 THYMU: Thymus, CLONTECH #64028-1;
 TLUNG: Lung (Tumor), CLONTECH #64013-1;
 TOVAR: Ovary (Tumor), CLONTECH #64011-1;
 TRACH: Trachea, CLONTECH #64091-1;
 TUTER: Uterus (Tumor), CLONTECH #64008-1;
 25 UTERU: Uterus, CLONTECH #64029-1;
 ADIPS: Adipose, Invitrogen #D6005-01;
 BLADE: Bladder, Invitrogen #D6020-01;
 BRALZ: Cerebral cortex from an Alzheimer patient (Brain, cortex,
 Alzheimer), Invitrogen #D6830-01;
 30 CERVX: Cervix, Invitrogen #D6047-01;
 COLON: Colon, Invitrogen #D6050-0;
 NESOP: Esophagus, Invitrogen #D6060-01;
 PERIC: Pericardium, Invitrogen #D6105-01;
 RECTM: Rectum, Invitrogen #D6110-01;
 35 TESOP: Esophageal (Tumor), Invitrogen #D6860-01;
 TKIDN: Kidney (Tumor), Invitrogen #D6870-01;

TLIVE: Liver (Tumor), Invitrogen #D6880-01;
 TSTOM: Stomach (Tumor), Invitrogen #D6920-01;
 BEAST: Adult breast, STARATAGENE #735044;
 FEHRT: Fetal heart, STARATAGENE #738012;
 5 FEKID: Fetal kidney, STARATAGENE #738014;
 FELNG: Fetal lung, STARATAGENE #738020;
 NOVAR: Adult ovary, STARATAGENE #735260;
 BRASW: subtracted library (BRALZ-BRAWH). A cDNA library was
 constructed from mRNA prepared from tissues of cerebral cortex
 10 obtained from an Alzheimer patient [BRALZ: Cerebral cortex from
 an Alzheimer patient (Brain, cortex, Alzheimer), Invitrogen
 #D6830-01]; the cDNA libraries whose nucleotide sequences were
 shared by those of mRNAs from whole brain tissue [BRAWH: Whole
 brain, CLONTECH #64020-1] were subtracted using a Subtract Kit
 15 (Invitrogen #K4320-01).

Further, mRNAs extracted and purified as poly A(+) RNAs
 from the human tissues shown below were purchased. A cDNA
 library was prepared from an RNA mixture in which the poly A(+) RNA
 from each tissue was combined with poly A(-) RNA. The poly
 20 A(-) RNA was prepared by removing poly A(+) RNA from the total
 RNA of whole brain tissue (CLONTECH #64020-1) by using oligo dT
 cellulose. The library names and origins are indicated below in
 the order of "Library name: Origin".

<Purchase of mRNAs of human tissues as poly A(+) RNAs>

25 BRAMY: Brain (amygdala), CLONTECH #6574-1;
 BRCAN: Brain (caudate nucleus), CLONTECH #6575-1;
 BRCOC: Brain (corpus callosum), CLONTECH #6577-1;
 BRHIP: Brain (hippocampus), CLONTECH #6578-1;
 BRSSN: Brain (substantia nigra), CLONTECH #6580-1;
 30 BRSTN: Brain (subthalamic nucleus), CLONTECH #6581-1;
 BRTHA: Brain (thalamus), CLONTECH #6582-1.

(2) Preparation of cDNA libraries

A cDNA library was prepared from each RNA using the
 35 improved method (WO 01/04286) of oligo capping [M. Maruyama and
 S. Sugano, Gene, 138: 171-174 (1994)]. A series of procedures,

BAP (Bacterial Alkaline Phosphatase) treatment, TAP (Tobacco Acid Pyrophosphatase) treatment, RNA ligation, first strand cDNA synthesis and RNA removal, were carried out using the oligo-cap linker (agcaucgagu cggccuuguu ggccuacugg/ SEQ ID NO: 4991) and oligo dT primer (gcggtgaag acggcctatg tggccttttt tttttttttt tt/ SEQ ID NO: 4992), as described in WO 01/04286. The single-stranded cDNA was then converted to a double-stranded cDNA by PCR (polymerase chain reaction) using 5' (agcatcgagt cggccttggtg/ SEQ ID NO: 4993) and 3' (gcggtgaag acggcctatg t/ SEQ ID NO: 4994) PCR primers, and then digested with *Sfi*I. Then, a fraction of cDNA fragments, typically 2-kb or longer (3-kb or longer in some cases), was unidirectionally cloned into a *Dra*III-digested pME18SFL3 vector (Figure 1) (GenBank AB009864, Expression vector); and the cDNA library was thus prepared.

Shown below are the names of cDNA libraries used in the analysis of full-length cDNA sequences, and their origins. The Library Name is provided with the Type, Origin, and such of the library source, demarcated by a slash mark (/) within parentheses.

3NB69 (culture cells / NB69 cells (RCB #RCB0480))
 ACTVT (primary culture cells / Activated T-cells(Activated T-cell))
 ADIPS (Tissues / Adipose (Invitrogen #D6005-01))
 ADRGL (Tissues / Adrenal gland (CLONTECH #64016-1))
 25 ASTRO (primary culture cells / Normal Human Astrocyte NHA5732 (Takara Shuzo #CC2565))
 BLADE (Tissues / Bladder (Invitrogen #D6020-01))
 BNGH4 (culture cells / H4 cells (ATCC #HTB-148))
 BRACE (Tissues / Brain (cerebellum) (CLONTECH #64035-1))
 30 BRALZ (Tissues / Cerebral cortex from an Alzheimer patient (Brain, cortex, Alzheimer) (Invitrogen #D6830-01))
 BRAMY (Tissues / Brain (amygdala) (CLONTECH #6574-1))
 BRASW (Tissues / subtracted library (BRALZ-BRAWH). The cDNAs from tissues of cerebral cortex obtained from an Alzheimer
 35 patient whose nucleotide sequences were shared by those of mRNAs from whole brain tissue were subtracted.

BRAWH (Tissues / Whole brain (CLONTECH #64020-1))
 BRCAN (Tissues / Brain (caudate nucleus) (CLONTECH #6575-1))
 BRCOC (Tissues / Brain (corpus callosum) (CLONTECH #6577-1))
 BRHIP (Tissues / Brain (hippocampus) (CLONTECH #6578-1))
 5 BRSSN (Tissues / Brain (substantia nigra) (CLONTECH #6580-1))
 BRSTN (Tissues / Brain (subthalamic nucleus) (CLONTECH #6581-1))
 BRTHA (Tissues / Brain (thalamus) (CLONTECH #6582-1))
 CERVX (Tissues / Cervix (Invitrogen #D6047-01))
 COLON (Tissues / Colon (Invitrogen #D6050-0))
 10 CORDB (Tissues / Cord blood)
 CTONG (Tissues / Tongue Cancer)
 D3OST (primary culture cells / CD34+ cells (treated with ODF for
 three days to induce the differentiation))
 DFNES (primary culture cells / Normal human dermal fibroblasts
 15 (neonatal skin); NHDF-Neo NHDF2564 (Takara Shuzo #CC2509))
 ERLTF (culture cells / TF-1 cells (Erythroleukemia))
 FCBBF (Tissues / Fetal brain)
 FEBRA (Tissues / Fetal brain (CLONTECH #64019-1))
 HCASM (primary culture cells / Normal human coronary artery
 20 smooth muscle cell HCASMC (Toyobo #T305K-05))
 HCHON (primary culture cells / Normal human chondrocyte HC
 (Toyobo #T402K-05))
 HEART (Tissues / Heart (CLONTECH #64025-1))
 HHDPC (primary culture cells / Normal human dermal papilla cell
 25 HDPC (Toyobo #THPCK-001))
 HLUNG (Tissues / Lung (CLONTECH #64023-1))
 HSYRA (primary culture cells / Human synoviocyte HS-RA (from
 rheumatoid arthritis) (Toyobo #T404K-05))
 IMR32 (culture cells / IMR32 cells (ATCC #CCL-127))
 30 KIDNE (Tissues / Kidney (CLONTECH #64030-1))
 LIVER (Tissues / Liver (CLONTECH #64022-1))
 LYMPB (primary culture cells / Lymphoblasts (EB virus
 transferred B cells))
 MESAN (primary culture cells / Normal human mesangial cell
 35 NHMC56046-2 (Takara Shuzo #CC2559))
 MESTC (culture cells / Mesenchyme stem cells)

NB9N4 (culture cells / NB9 cells (RCB #RCB0477))
 NCRRP (culture cells / Embryonal carcinomas treated with RA to induce the differentiation)
 NESOP (Tissues / Esophagus (Invitrogen #D6060-01))
 5 NHNPC (primary culture cells / Normal human neural progenitor cell NHNP5958 (Takara Shuzo #CC2599))
 NOVAR (Tissues / Adult ovary (STARATAGENE #735260))
 NT2NE (culture cells / NT2 cells were treated with RA and the growth inhibitor for the neuronal differentiation, and the
 10 resultant neurons were concentrated and harvested (NT2 Neuron))
 NT2RI (culture cells / NT2 cells treated with RA for five weeks to induce the differentiation, followed by the treatment with the growth inhibitor for 2 weeks)
 NT2RP (culture cells / NT2 cells treated with RA for five weeks
 15 to induce the differentiation)
 NTONG (Tissues / Normal tongue)
 OCBBF (Tissues / Fetal brain)
 PEBLM (primary culture cells / Normal human peripheral blood mononuclear cell HPBMC5939 (Takara Shuzo #CC2702))
 20 PERIC (Tissues / Pericardium (Invitrogen #D6105-01))
 PLACE (Tissues / Placenta)
 PROST (Tissues / Prostate (CLONTECH #64038-1))
 PUAEN (primary culture cells / Normal human pulmonary artery endothelial cells (Toyobo #T302K-05))
 25 RECTM (Tissues / Rectum (Invitrogen #D6110-01))
 SKMUS (Tissues / Skeletal Muscle (CLONTECH #64033-1))
 SKNMC (culture cells / SK-N-MC cells (ATCC #HTB-10))
 SKNSH (culture cells / SK-N-SH cells (RCB #RCB0426))
 SMINT (Tissues / Small Intestine (CLONTECH #64039-1))
 30 SPLEN (Tissues / Spleen (CLONTECH #64034-1))
 STOMA (Tissues / Stomach (CLONTECH #64090-1))
 SYNOV (Tissues / Synovial membrane tissue (from rheumatoid arthritis))
 T1ESE (culture cells / Mesenchymal stem cell (treated with
 35 trichostatin and 5-azacytidine to induce the differentiation))
 TBAES (Tissues / Breast (Tumor) (CLONTECH #64015-1))

TCERX (Tissues / Cervix (Tumor) (CLONTECH #64010-1))
 TCOLN (Tissues / Colon (Tumor) (CLONTECH #64014-1))
 TESOP (Tissues / Esophageal (Tumor) (Invitrogen #D6860-01))
 TESTI (Tissues / Testis (CLONTECH #64027-1))
 5 THYMU (Tissues / Thymus (CLONTECH #64028-1))
 TKIDN (Tissues / Kidney (Tumor) (Invitrogen #D6870-01))
 TLIVE (Tissues / Liver (Tumor) (Invitrogen #D6880-01))
 TOVAR (Tissues / Ovary (Tumor) (CLONTECH #64011-1))
 TRACH (Tissues / Trachea (CLONTECH #64091-1))
 10 TSTOM (Tissues / Stomach (Tumor) (Invitrogen #D6920-01))
 TUTER (Tissues / Uterus (Tumor) (CLONTECH #64008-1))
 UTERU (Tissues / Uterus (CLONTECH #64029-1))

cDNA libraries with a high fullness ratio (the fullness ratio of 5'-end was 90% on average, calculated for each cDNA library using the protein coding region found in known mRNA species as an index) prepared by the improved oligo-capping method were constructed using a eukaryotic expression vector pME18SFL3. The vector contained SR α promoter and SV40 small t intron upstream of the cloning site, and SV40 polyA added signal sequence site downstream. As the cloning site of pME18SFL3 has asymmetrical DraIII sites, and the ends of cDNA fragments contain SfiI sites complementary to the DraIII sites, the cloned cDNA fragments can be inserted downstream of the SR α promoter unidirectionally. Therefore, clones containing full-length cDNA can be expressed transiently by introducing the obtained plasmid directly into COS cells, etc. Thus, clones can be analyzed very easily using the clone gene product proteins, or those proteins' biological activities.

30 (3) Assessment of 5'-end completeness of clones derived from a cDNA library prepared by oligo-capping

With respect to the plasmid DNAs of clones derived from the libraries, the nucleotide sequences of cDNA 5'-ends (3'-ends as well in some cases) were determined in a DNA sequencer (ABI PRISM 3700, PE Biosystems), after sequencing reaction were conducted using a DNA sequencing reagent (BigDye Terminator

Cycle Sequencing FS Ready Reaction Kit, PE Biosystems) according to the manual. A database was constructed based on the obtained data.

5 The 5'-end completeness of about 1,110,000 clones derived from the human cDNA libraries prepared by the improved oligo-capping method was determined using the following method. The clones whose 5'-end sequences were consistent with those of known human mRNA in the public database were judged to be "full-length" if they had a longer 5'-end sequence than that of the
10 known human mRNA. Even if the 5'-end sequence was shorter, clones containing the translation initiation codon were judged to comprise the "full-length" sequence. Clones which did not comprise the translation initiation codon were judged to be "not-full-length". The fullness ratio ((the number of full-length clones)/(the number of full-length and not-full-length clones)) at the 5'-end of the cDNA clones was determined by comparison with known human mRNA. The fullness ratio of the 5'-ends was found to be 90%. The result indicates that the fullness ratio at the 5'-end sequence was extremely high in
15 human cDNA clones obtained by the oligo-capping method.
20

EXAMPLE 2

Sequencing analysis of cDNA ends and selection of full-length clones

25 With respect to the plasmid DNAs of clones obtained from each cDNA library, the 5'-end nucleotide sequences of the cDNAs were determined in a DNA sequencer (ABI PRISM 3700, PE Biosystems), after sequencing reaction was conducted by using a DNA sequencing reagent (Dye Terminator Cycle Sequencing FS Ready
30 Reaction Kit, dRhodamine Terminator Cycle Sequencing FS Ready Reaction Kit or BigDye Terminator Cycle Sequencing FS Ready Reaction Kit, PE Biosystems) according to the manual. A database was constructed using the data obtained.

35 For the analyzed 5'-end sequences of cDNA clones, the data with the annotation of "complete cds" in the GenBank and UniGene were searched by BLAST homology search. When identical to

certain human mRNA sequences, such cDNA clones were excluded. Then, clustering was carried out. When the identity was 90% or higher, and the length of consensus sequence was 50 base pairs or longer, the cDNA clones were assumed to belong to an identical cluster, and thus clustered. cDNA clones longer in the 5' direction were selected from the members belonging to a cluster; if required, the 3'-end sequences of the selected clones were determined by the same analysis method as used to determine the 5'-end sequences. The data of the end sequences obtained were analyzed, and then the clones forming a sequence contig at 5'- and 3'-ends were excluded. Further, as mentioned above, the data was analyzed again by BLAST homology search; when identical to certain human mRNA sequences (including sequences patented and applied for), the cDNA clones were excluded. Thus, the cDNAs clones to be analyzed for their nucleotide sequence were obtained.

EXAMPLE 3

Analysis of the full-length nucleotide sequences

The full-length nucleotide sequences of the selected clones were determined. The nucleotide sequence determination was mainly performed by primer walking method comprising the dideoxy terminator method using custom-made synthetic DNA primers. Namely, the nucleotide sequences of the DNAs were determined in a sequencer from PE Biosystems, after sequencing reaction was carried out with a DNA sequencing reagent from the same supplier using the custom-made synthetic DNA primers according to the manual. A part of the clones were analyzed with a DNA sequencer from Licor.

Further, the nucleotide sequences of a part of the clones were determined by the shotgun method where the plasmids containing the cDNAs were digested at random were used, instead of the use of custom-made primers, by the same method in the DNA sequencer. The full-length nucleotide sequences were finally determined by completely assembling the partial nucleotide sequences obtained by the above method.

Then, the regions translatable to proteins were deduced from the determined full-length nucleotide sequences, and thereby the amino acid sequences were determined. SEQ ID NOs corresponding to the respective sequences are shown in Table 1.

5

EXAMPLE 4

Functional prediction by homology search

GenBank, SwissProt, UniGene, RefSeq, and nr were searched using BLAST for the determined nucleotide sequences (SEQ ID NOs: 1-2188) and the ORF amino acid sequences deduced to encode the polypeptides (SEQ ID NOs: 2189-4376). SwissProt, RefSeq, and nr were searched using BLAST for the nucleotide sequences of SEQ ID NOs: 4377-4683, and the amino acid sequences of SEQ ID NOs: 4684-4990. Of the hit data which met the criteria described below, representative hit data were selected. This representative data is hit data with a higher homology and that enables relatively easy functional prediction for nucleotide sequences and deduced amino acid sequences. The results of the homology search are shown at the end of this specification.

- 20 · Hit data whose P value or E value is 10^{-4} or less
- For analysis using an amino acid database, hit data whose P value or E value is 10^{-4} or less, where the length of consensus sequence \times homology = 30 or higher,

Thus, only representative data are indicated and molecules exhibiting homology to each clone are not limited thereto. For some clones, hit data that do not meet the above-described criteria in BLAST search are not shown.

EXAMPLE 5

Search for signal sequence, transmembrane domain and other functional domains in the deduced amino acid sequences

With respect to the amino acid sequences deduced from the full-length nucleotide sequences, the prediction was made for the presence of signal sequence at the amino terminus, the presence of transmembrane domain, and the presence of functional protein domains (motifs). The signal sequence at the amino

35

terminus was searched for by PSORT [K. Nakai & M. Kanehisa, Genomics, 14: 897-911 (1992)]; the transmembrane domain, by SOSUI [T. Hirokawa et al., Bioinformatics, 14: 378-379 (1998)] (Mitsui Knowledge Industry); the function domain, by Pfam (Version 5.5) (<http://www.sanger.ac.uk/Software/Pfam/index.shtml>). The amino acid sequence in which the signal sequence at the amino terminus or transmembrane domain had been predicted to be present by PSORT or SOSUI were assumed to be a secretory or membrane protein. Further, when the amino acid sequence hit a certain functional domain by the Pfam functional domain search, the protein function can be predicted based on the hit data, for example, by referring to the function categories on the PROSITE (<http://www.expasy.ch/cgi-bin/prosite-list.pl>). In addition, the functional domain search can also be carried out on the PROSITE.

The search results obtained with the respective programs are shown below.

The 161 clones whose deduced amino acid sequences were detected to have the signal sequences by PSORT are as follows.

ADIPS2000088, ADRGL2000172, ADRGL2009146, BNGH42003570,
 BRACE2030341, BRACE2031531, BRACE2039327, BRACE2041200,
 BRACE2043142, BRACE3004113, BRACE3004843, BRACE3010397,
 BRACE3011505, BRACE3026735, BRACE3040856, BRAMY2004771,
 BRAMY2005052, BRAMY2019300, BRAMY2019963, BRAMY3007206,
 BRAMY3007609, BRAMY3008505, BRAWH2002560, BRAWH3001475,
 BRAWH3003992, BRAWH3004666, BRAWH3006548, BRCAN2002948,
 BRCAN2010376, BRCAN2012481, BRHIP2005236, BRHIP2026288,
 BRHIP3008598, BRSSN2014424, BRSTN2007000, BRSTN2010363,
 BRSTN2016470, BRTHA2002608, BRTHA2005579, BRTHA2016496,
 BRTHA2018344, BRTHA3000633, BRTHA3017047, COLON2000568,
 COLON2002443, COLON2005126, CTONG1000302, CTONG1000488,
 CTONG1000508, CTONG2000042, CTONG2008233, CTONG3000707,
 CTONG3001560, CTONG3003179, CTONG3003483, CTONG3003737,
 CTONG3005648, CTONG3008258, CTONG3009385, D3OST2002182,
 D3OST2002648, FCBBF2001183, FCBBF2007510, FCBBF3009888,

FCBBF4000076, FEBRA2025427, HCASM2002502, HCHON2001577,
 HCHON2002676, HEART2001680, HSYRA2009102, IMR322002110,
 KIDNE2000846, KIDNE2006580, KIDNE2013095, LYMPB2000083,
 NOVAR2000136, NOVAR2001108, NT2RI2008724, NT2RI3005403,
 5 NT2RI3007065, NT2RP7000359, NT2RP7000466, NTONG2000413,
 OCBBF2006764, PLACE5000171, PLACE5000282, PLACE6012574,
 PROST2018090, PUAEN2002489, PUAEN2009795, RECTM2000433,
 SKMUS2000757, SKNMC2002402, SMINT2015787, SPLEN2009548,
 SPLEN2012624, SPLEN2012889, SPLEN2021701, SPLEN2030479,
 10 SPLEN2031125, SPLEN2034021, SPLEN2034781, SPLEN2037722,
 SPLEN2040222, STOMA2004294, SYNOV4002883, SYNOV4008336,
 TESOP2002273, TESOP2005485, TESOP2007636, TESTI2002618,
 TESTI2036684, TESTI2048898, TESTI4001561, TESTI4001665,
 TESTI4008401, TESTI4008797, TESTI4014392, TESTI4020102,
 15 TESTI4025797, TESTI4028429, TESTI4035065, TESTI4035649,
 TESTI4042711, TESTI4046487, THYMU2001053, THYMU2003632,
 THYMU2005321, THYMU2013386, THYMU2014353, THYMU2019210,
 THYMU2027497, THYMU2027695, THYMU2029676, THYMU2039780,
 THYMU2040412, THYMU3004835, THYMU3005696, THYMU3007845,
 20 TKIDN2002424, TKIDN2019116, TLIVE2002690, TRACH2007834,
 TRACH3002650, TRACH3004786, TRACH3006149, TRACH3035199,
 TRACH3035526, UTERU1000339, UTERU2025645, UTERU2026090,
 UTERU3000645, UTERU3000899, UTERU3001585, UTERU3002209,
 UTERU3002383, UTERU3003776, UTERU3009690, UTERU3009979,
 25 UTERU3015500

Deduced amino acid sequences of following 20 clones were also detected to have the signal sequences by PSORT.

BRACE2002589, BRACE2009318, BRACE2039823, BRAWH2006395,
 BRAWH2008993, BRCOC2019841, BRHIP2005271, BRTHA2011321,
 30 FEBRA2028256, HCASM2003099, PROST2000452, PROST2019487,
 SPLEN2016932, STOMA2003158, SYNOV2001660, SYNOV4003981,
 TESTI2015626, TESTI4000319, TKIDN2018926, UTERU2032279

The 523 clones whose deduced amino acid sequences were detected to have the transmembrane domains by SOSUI are as follows. Numerals indicate the numbers of transmembrane domains detected in the deduced amino acid sequences. Of the search

result, the Clone Name and the Number of transmembrane domains are demarcated by a double slash mark (//).

ACTVT2000380//1, ADRGL2003329//2, ASTRO2014923//6,
 ASTRO3000301//1, BLADE1000176//1, BLADE2002073//1,
 5 BLADE2002947//2, BLADE2004462//2, BLADE2004670//1,
 BLADE2008539//1, BNGH42003570//1, BRACE1000186//1,
 BRACE2005457//8, BRACE2014306//11, BRACE2016981//1,
 BRACE2030341//1, BRACE2030884//3, BRACE2031527//1,
 BRACE2031899//2, BRACE2032385//3,
 10 BRACE2036005//1, BRACE2040138//2, BRACE2043142//4,
 BRACE2043665//1, BRACE3000697//4, BRACE3001391//3,
 BRACE3002298//1, BRACE3003004//1, BRACE3004113//1,
 BRACE3004843//1, BRACE3006462//3, BRACE3008384//6,
 BRACE3009574//1, BRACE3009708//6, BRACE3010397//2,
 15 BRACE3011505//2, BRACE3013740//3, BRACE3014005//8,
 BRACE3014068//3, BRACE3014807//3,
 BRACE3020286//3, BRACE3020594//2, BRACE3024662//1,
 BRACE3025531//1, BRACE3026008//2, BRACE3031838//1,
 BRACE3040856//3, BRALZ2016085//10, BRAMY2004771//2,
 20 BRAMY2005052//2, BRAMY2017528//1, BRAMY2019300//2,
 BRAMY2019963//1, BRAMY2028856//2, BRAMY2033003//2,
 BRAMY2033116//2, BRAMY2033594//1, BRAMY2036396//2,
 BRAMY2039872//2, BRAMY2040592//2,
 BRAMY2041542//1, BRAMY2045036//1, BRAMY2047420//1,
 25 BRAMY2047765//3, BRAMY3002312//1, BRAMY3004224//2,
 BRAMY3004919//5, BRAMY3008505//2, BRASW1000125//2,
 BRAWH2002560//1, BRAWH2002761//3, BRAWH2007658//2,
 BRAWH2014414//1, BRAWH2016439//1, BRAWH2016702//3,
 BRAWH3000078//2, BRAWH3000314//1, BRAWH3001891//6,
 30 BRAWH3002600//1, BRAWH3003555//2,
 BRAWH3003727//1, BRAWH3004453//1, BRAWH3004666//2,
 BRAWH3005132//1, BRAWH3005912//1, BRAWH3006548//2,
 BRAWH3007221//2, BRAWH3007506//2, BRAWH3007592//1,
 BRAWH3008634//1, BRCAN2012355//5, BRCAN2012481//1,
 35 BRCAN2013655//3, BRCAN2014143//5, BRCAN2028355//4,
 BRCOC2007034//2, BRCOC2019934//2, BRHIP2000691//1,

BRHIP2001805//1, BRHIP2002172//8,
 BRHIP2004814//1, BRHIP2004883//2, BRHIP2005752//2,
 BRHIP2009414//7, BRHIP2013699//1, BRHIP2026288//2,
 BRHIP3000526//1, BRHIP3007483//2, BRHIP3007586//1,
 5 BRHIP3008598//3, BRHIP3015751//1, BRHIP3024118//7,
 BRHIP3026097//1, BRSSN2003086//1, BRSSN2008549//1,
 BRSSN2011738//2, BRSSN2014424//9, BRSSN2018925//2,
 BRSTN2003835//1, BRSTN2007000//1,
 BRSTN2012380//1, BRSTN2015015//2, BRSTN2016678//3,
 10 BRSTN2017110//2, BRTHA2002281//2, BRTHA2002376//2,
 BRTHA2002493//1, BRTHA2002608//2, BRTHA2002808//1,
 BRTHA2003110//2, BRTHA2003461//3, BRTHA2006075//2,
 BRTHA2011194//1, BRTHA2012980//2, BRTHA2013460//2,
 BRTHA2015696//2, BRTHA2015878//2, BRTHA2016215//1,
 15 BRTHA2017985//1, BRTHA2018344//3,
 BRTHA2018624//1, BRTHA3000633//2, BRTHA3002427//12,
 BRTHA3003474//2, BRTHA3007148//3, BRTHA3008386//4,
 BRTHA3008778//1, BRTHA3009090//1, BRTHA3009291//2,
 BRTHA3016845//2, BRTHA3017047//2, BRTHA3017589//2,
 20 BRTHA3017848//8, BRTHA3018656//9, CERVX2002006//1,
 COLON2002443//1, COLON2005126//2, CTONG1000302//1,
 CTONG1000341//1, CTONG2004062//4,
 CTONG2008233//2, CTONG2009423//3, CTONG2009531//1,
 CTONG2013178//1, CTONG2019652//1, CTONG2019788//1,
 25 CTONG2020127//1, CTONG2020522//1, CTONG2020638//6,
 CTONG2022601//2, CTONG2023512//2, CTONG2026920//1,
 CTONG2027327//1, CTONG2028124//3, CTONG2028687//2,
 CTONG3001560//4, CTONG3002020//2, CTONG3002412//3,
 CTONG3003483//2, CTONG3003737//1,
 30 CTONG3008252//1, CTONG3008496//2, CTONG3008566//1,
 CTONG3008951//2, CTONG3009227//1, CTONG3009239//3,
 CTONG3009328//5, CTONG3009385//4, D3OST2002648//6,
 DFNES1000107//1, DFNES2010502//3, FCBBF2001183//2,
 FCBBF2007510//2, FCBBF3003435//1, FCBBF3004502//10,
 35 FCBBF3009888//1, FCBBF3012170//1, FCBBF3021576//1,
 FCBBF3023895//1, FEBRA2007544//1,

FEBRA2007708//13, FEBRA2008311//7, FEBRA2020668//2,
 FEBRA2025427//1, FEBRA2027082//1, HCASM2003212//1,
 HCASM2007047//9, HCHON2000212//1, HCHON2001084//12,
 HCHON2001548//1, HCHON2001712//9, HCHON2004007//3,
 5 HCHON2005921//4, HLUNG2000014//1, HLUNG2003872//5,
 HLUNG2010464//4, HLUNG2015617//2, HLUNG2017350//4,
 HSYRA2005496//2, HSYRA2006873//1,
 HSYRA2008714//6, HSYRA2009102//10, IMR322000127//2,
 IMR322002110//1, IMR322006222//1, KIDNE1000064//10,
 10 KIDNE2000832//10, KIDNE2000846//5, KIDNE2006580//1,
 KIDNE2010264//1, KIDNE2011635//12, KIDNE2012945//1,
 KIDNE2013095//3, LIVER2007415//1, LYMPB2000083//3,
 MESAN2001979//3, MESAN2012054//2, MESTC1000042//1,
 NHNPC2000606//1, NHNPC2001223//1,
 15 NT2RI2008724//1, NT2RI2009855//3, NT2RI3001263//1,
 NT2RI3003095//3, NT2RI3003382//1, NT2RI3003409//1,
 NT2RI3005403//2, NT2RI3006673//1, NT2RI3007065//3,
 NT2RI3007543//2, NT2RI3007978//2, NT2RP7000466//1,
 NT2RP7009030//1, NT2RP7014005//2, NTONG2000413//1,
 20 OCBBF2006151//5, OCBBF2006567//1, OCBBF2006764//1,
 OCBBF2007114//1, OCBBF2007428//1,
 OCBBF2009926//2, OCBBF2010140//13, OCBBF2017516//2,
 OCBBF2021788//1, OCBBF2024719//1, OCBBF2025458//2,
 OCBBF2030517//2, OCBBF2030574//3, OCBBF2031167//1,
 25 OCBBF2033869//2, OCBBF2038317//2, OCBBF3000483//1,
 OCBBF3003320//6, OCBBF3004314//1, PEBLM2000170//1,
 PEBLM2000338//2, PEBLM2002594//2, PEBLM2006113//1,
 PEBLM2007834//1, PERIC2001227//1,
 PERIC2003452//3, PERIC2004909//2, PERIC2006035//7,
 30 PERIC2007914//3, PLACE5000171//1, PLACE5000260//2,
 PLACE6012574//2, PLACE7000514//1, PLACE7001022//1,
 PROST1000184//2, PROST1000528//2, PROST1000559//1,
 PROST2018902//1, PROST2018922//1, PUAEN2002489//4,
 PUAEN2005588//1, PUAEN2006701//3, PUAEN2009174//1,
 35 PUAEN2009852//1, RECTM2001347//2,
 SMINT1000192//1, SMINT2002743//2, SMINT2009902//4,

SMINT2015787//2, SPLEN2001599//1, SPLEN2009548//2,
 SPLEN2012889//3, SPLEN2015158//1, SPLEN2015679//1,
 SPLEN2021701//2, SPLEN2023733//7, SPLEN2023791//1,
 SPLEN2025491//1, SPLEN2029522//1, SPLEN2029683//2,
 5 SPLEN2030335//1, SPLEN2030479//1, SPLEN2031125//2,
 SPLEN2031424//2, SPLEN2031547//6,
 SPLEN2031724//3, SPLEN2031780//2, SPLEN2032813//2,
 SPLEN2033098//1, SPLEN2036326//4, SPLEN2037722//2,
 SPLEN2038180//2, SPLEN2038345//1, SPLEN2040222//4,
 10 SPLEN2041304//1, SPLEN2042598//3, STOMA2008546//3,
 SYNOV2005817//2, SYNOV2012326//2, SYNOV2016124//1,
 SYNOV2021320//2, SYNOV4003322//3, SYNOV4004184//1,
 SYNOV4004741//3, SYNOV4004914//1,
 SYNOV4006256//2, SYNOV4007430//1, SYNOV4007553//2,
 15 SYNOV4007671//1, SYNOV4008336//2, SYNOV4008440//4,
 TCERX2000613//1, TESOP2000801//1, TESOP2001345//2,
 TESOP2001865//2, TESOP2002273//2, TESOP2002539//3,
 TESOP2005579//1, TESOP2006041//1, TESOP2007052//1,
 TESOP2007262//1, TESOP2007636//2, TESTI1000257//11,
 20 TESTI1000348//3, TESTI2002036//6,
 TESTI2002618//2, TESTI2002928//1, TESTI2003347//2,
 TESTI2005610//1, TESTI2006648//6, TESTI2013382//3,
 TESTI2024567//5, TESTI2034953//1, TESTI2034997//1,
 TESTI2035997//1, TESTI2042450//1, TESTI2047071//2,
 25 TESTI2048898//2, TESTI2051767//3, TESTI2052822//1,
 TESTI4000215//2, TESTI4000724//11, TESTI4001176//1,
 TESTI4001561//2, TESTI4001923//1,
 TESTI4002552//4, TESTI4002754//3, TESTI4005805//1,
 TESTI4005961//1, TESTI4006053//1, TESTI4006137//2,
 30 TESTI4007064//3, TESTI4007163//3, TESTI4007239//1,
 TESTI4007382//1, TESTI4008401//1, TESTI4009608//1,
 TESTI4013369//3, TESTI4013667//2, TESTI4013830//3,
 TESTI4016238//2, TESTI4017575//2, TESTI4017901//2,
 TESTI4018835//2, TESTI4019566//2,
 35 TESTI4020092//1, TESTI4020102//2, TESTI4021478//7,
 TESTI4023722//2, TESTI4024420//1, TESTI4024874//3,

TESTI4024890//2, TESTI4026456//1, TESTI4026785//1,
 TESTI4027821//1, TESTI4028062//1, TESTI4028429//1,
 TESTI4028823//4, TESTI4028880//11, TESTI4029836//7,
 TESTI4030159//3, TESTI4030505//2, TESTI4034172//3,
 5 TESTI4035649//2, TESTI4037244//1,
 TESTI4041053//2, TESTI4042711//2, TESTI4046487//1,
 THYMU2003632//4, THYMU2003760//1, THYMU2005003//2,
 THYMU2005303//1, THYMU2007658//2, THYMU2009425//3,
 THYMU2011548//6, THYMU2013386//2, THYMU2014353//2,
 10 THYMU2019210//2, THYMU2030068//3, THYMU2032035//2,
 THYMU2032437//1, THYMU2032655//1, THYMU2033308//1,
 THYMU2033816//4, THYMU2034314//1,
 THYMU2035064//2, THYMU2036085//6, THYMU2037226//3,
 THYMU2037233//1, THYMU2037348//2, THYMU2038772//1,
 15 THYMU2038797//1, THYMU2040412//1, THYMU2041015//12,
 THYMU3000028//1, THYMU3000036//2, THYMU3004835//1,
 THYMU3006168//8, THYMU3006811//2, THYMU3007368//1,
 TKIDN2002424//2, TKIDN2002632//1, TKIDN2006525//2,
 TKIDN2009092//1, TKIDN2009889//1,
 20 TKIDN2014771//2, TKIDN2019116//4, TLIVE2000023//5,
 TLIVE2001828//2, TLIVE2001927//2, TLIVE2002336//1,
 TLIVE2002690//2, TLIVE2003381//4, TLIVE2004110//1,
 TOVAR2001281//1, TRACH1000205//6, TRACH2001549//1,
 TRACH2001684//2, TRACH2006387//6, TRACH2007059//1,
 25 TRACH2008300//1, TRACH2020525//4, TRACH2021964//2,
 TRACH2022553//2, TRACH2025535//1,
 TRACH2025911//1, TRACH3000014//1, TRACH3002064//1,
 TRACH3002650//2, TRACH3004786//4, TRACH3005294//1,
 TRACH3006149//1, TRACH3007391//1, TRACH3008629//2,
 30 TRACH3035199//3, TRACH3036193//1, TSTOM2000442//2,
 TUTER2000916//1, UTERU2004688//1, UTERU2004929//1,
 UTERU2006137//1, UTERU2006568//1, UTERU2007444//1,
 UTERU2020718//2, UTERU2022020//1,
 UTERU2025025//1, UTERU2025891//2, UTERU2026090//1,
 35 UTERU2026203//3, UTERU2027591//1, UTERU2029953//3,
 UTERU2031851//2, UTERU2035323//3, UTERU2035469//1,

UTERU3000645//4, UTERU3000899//2, UTERU3001240//4,
 UTERU3001571//2, UTERU3001585//2, UTERU3002209//3,
 UTERU3002786//1, UTERU3003116//1, UTERU3003776//1,
 UTERU3006308//3, UTERU3008671//1,
 5 UTERU3009690//1, UTERU3011063//10, UTERU3016789//2

Deduced amino acid sequences of following 70 clones were also detected to have the transmembrane domains by SOSUI.

BLADE2006830//8, BRACE2002589//1, BRACE2011677//2,
 BRACE2029396//2, BRACE2039823//3, BRACE2039832//1,
 10 BRAMY2019111//5, BRAMY2045471//2, BRAWH2008993//1,
 BRHIP2003272//1, BRHIP2005724//1, BRHIP2008389//3,
 BRTHA2011321//2, BRTHA2017972//1, BRTHA2018011//2,
 BRTHA2018443//6, BRTHA3008826//1, CTONG2003348//1,
 CTONG2015633//2, CTONG2016942//1,
 15 CTONG2019822//9, CTONG2020974//1, FEBRA2000790//1,
 FEBRA2006519//1, FEBRA2008692//1, FEBRA2028516//2,
 HCASM2002754//4, HCASM2003099//3, HEART2009680//7,
 HLUNG2013350//1, HLUNG2015418//3, IMR322013396//2,
 LIVER2000247//4, NT2RI2009583//8, NT2RI2027157//6,
 20 OCBBF2030116//2, PLACE7000502//2, PROST2019487//2,
 SPLEN2016932//1, SPLEN2037319//2,
 SYNOV2001660//1, SYNOV2013637//4, SYNOV4003981//1,
 SYNOV4005889//1, TBAES2000932//1, TESOP2001796//2,
 TESOP2006865//1, TESTI2029252//9, TESTI2032643//3,
 25 TESTI2050780//6, TESTI4000137//3, TESTI4000155//1,
 TESTI4006473//1, TESTI4013894//4, TESTI4014801//1,
 TESTI4032090//2, TESTI4041086//10, THYMU2004284//1,
 THYMU2030462//1, THYMU2033401//4,
 THYMU2034279//1, THYMU2035710//1, THYMU2040925//3,
 30 TKIDN2008778//1, TKIDN2012771//4, TRACH3000420//7,
 UTERU2011220//1, UTERU2021820//2, UTERU2032279//2,
 UTERU3015069//2

The 664 clones whose deduced amino acid sequences were detected to have functional domains with Pfam are as follows.

35 The search result is indicated as "Clone Name//Functional Domain Name". When the clone has Multiple Hit Functional Domains, they

are listed and demarcated by a double slash mark (//). When the clone has multiple hits of an identical functional domain, each is listed without abridgment.

- 3NB692002685// R3H domain
- 5 3NB692002806// short chain dehydrogenase
3NB692008729// Hrl repeat motif
ADIPS2000088// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain
ASTRO1000009// Delta-aminolevulinic acid dehydratase// FERM
- 10 domain (Band 4.1 family)
ASTRO2003960// F-box domain.
ASTRO2014923// Ion transport protein
ASTRO3000301// Transmembrane 4 family// Adenovirus E3 region
protein CR2
- 15 BLADE2005036// Zinc carboxypeptidase
BLADE2007958// WD domain, G-beta repeat// WD domain, G-beta
repeat// WD domain, G-beta repeat
BLADE2008539// Carbohydrate phosphorylases
BNGH42003570// EB module// Furin-like cysteine rich region//
- 20 Thrombospondin type 1 domain
BNGH42007788// WD domain, G-beta repeat// WD domain, G-beta
repeat// WD domain, G-beta repeat// WD domain, G-beta repeat//
WD domain, G-beta repeat// WD domain, G-beta repeat
BRACE1000258// PH domain// PH domain
- 25 BRACE2005457// Sulfate transporter family// Xanthine/uracil
permeases family
BRACE2006319// TRAF-type zinc finger// Squash family of serine
protease inhibitors// TRAF-type zinc finger
BRACE2008594// Eukaryotic protein kinase domain
- 30 BRACE2010489// LysM domain
BRACE2014306// Vesicular monoamine transporter// Ribosomal
protein L23// Sugar (and other) transporter// LacY proton/sugar
symporter
BRACE2014475// Amidase
- 35 BRACE2015314// Bacterial mutT protein
BRACE2016981// Fanconi anaemia group C protein// Bacterial

flagellin N-terminus
 BRACE2018762// WH1 domain// RanBP1 domain.// Streptomyces
 extracellular neutral protein// Formyl transferase// K-box
 region// Tropomyosins
 5 BRACE2026836// Calponin homology (CH) domain
 BRACE2027258// Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Ank repeat
 BRACE2030341// Kinase associated domain 1
 BRACE2035381// Lysophospholipase catalytic domain
 10 BRACE2035441// Spectrin repeat// Spectrin repeat// Spectrin
 repeat
 BRACE2038329// TS-N domain// UBA domain
 BRACE2041009// TBC domain
 BRACE2042550// Thrombospondin type 1 domain// Trypsin Inhibitor
 15 like cysteine rich domain// von Willebrand factor type C
 domain// Thrombospondin type 1 domain
 BRACE2043142// Glucose-6-phosphate dehydrogenase
 BRACE2044286// CRAL/TRIO domain.// Spectrin repeat
 BRACE2045300// Cofilin/tropomyosin-type actin-binding proteins
 20 BRACE2046295// Immunoglobulin domain// EGF-like domain
 BRACE2047011// DNA polymerase family B
 BRACE3000071// Ank repeat// Ank repeat// Ank repeat
 BRACE3000973// Leucine Rich Repeat
 BRACE3001002// Lipoprotein
 25 BRACE3001391// Latrophilin/CL-1-like GPS domain// PLAT/LH2
 domain// Regulator of G protein signaling domain
 BRACE3003192// EGF-like domain// EGF-like domain// EGF-like
 domain// EGF-like domain// Metallothionein// Keratin, high
 sulfur B2 protein// EGF-like domain// EGF-like domain// EGF-like
 30 domain// EGF-like domain// TB domain// EGF-like domain// EGF-
 like domain// EGF-like domain// TB domain// EGF-like domain//
 EGF-like domain
 BRACE3004058// FAD/NAD-binding Cytochrome reductase//
 Oxidoreductase FAD/NAD-binding domain
 35 BRACE3004150// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP

domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)
 BRACE3004772// SAM domain (Sterile alpha motif)
 BRACE3004880// GLTT repeat (12 copies)// GLTT repeat (12
 5 copies)// GLTT repeat (12 copies)// Keratin, high sulfur B2 protein
 BRACE3006872// WD domain, G-beta repeat// WD domain, G-beta repeat// WD domain, G-beta repeat
 BRACE3007625// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat//
 10 repeat// Ank repeat// Ank repeat// Ank repeat// Cytochrome P450
 BRACE3008137// PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).
 BRACE3008384// Rhomboid family
 15 BRACE3008720// GTP1/OBG family// ADP-ribosylation factor family
 BRACE3009090// Beige/BEACH domain
 BRACE3009708// E1-E2 ATPase// Na⁺/K⁺ ATPase C-terminus
 BRACE3010397// SCP-like extracellular protein
 BRACE3011421// Phorbol esters/diacylglycerol binding dom//
 20 Diacylglycerol kinase catalytic domain (presumed)//
 Diacylglycerol kinase accessory domain (presumed)// Ank repeat// Ank repeat
 BRACE3013576// Hemagglutinin// SPRY domain// Zinc finger, C3HC4 type (RING finger)
 25 BRACE3014005// Putative integral membrane protein
 BRACE3015262// Cytochrome P450
 BRACE3015521// EF hand
 BRACE3016884// Keratin, high sulfur B2 protein// Flagellar L-ring protein
 30 BRACE3019084// SAM domain (Sterile alpha motif)
 BRACE3024073// 4Fe-4S iron sulfur cluster binding protein// lactate/malate dehydrogenase// Viral (Superfamily 1) RNA helicase// Ras family
 BRACE3025630// Subtilase family
 35 BRACE3027326// LGN motif, putative GEF specific for G-alpha// Rap/ran-GAP

- BRACE3027478// Permeases for cytosine/purines, uracil
 BRALZ2014484// PH domain
 BRALZ2016085// Presenilin// Sugar (and other) transporter//
 Monocarboxylate transporter
- 5 BRAMY2001473// Death domain// ZU5 domain
 BRAMY2004771// Leucine Rich Repeat// Leucine rich repeat C-
 terminal domain// Leucine rich repeat N-terminal domain
 BRAMY2005052// Immunoglobulin domain
 BRAMY2019300// Leucine Rich Repeat// Leucine rich repeat C-
 10 terminal domain// Leucine rich repeat N-terminal domain
 BRAMY2021498// Thrombospondin type 1 domain// DnaJ central
 domain (4 repeats)// Thrombospondin type 1 domain//
 Thrombospondin type 1 domain// Thrombospondin type 1 domain//
 Thrombospondin type 1 domain
- 15 BRAMY2030109// Phorbol esters/diacylglycerol binding domain (C1
 domain)// PHD-finger
 BRAMY2031317// PDZ domain (Also known as DHR or GLGF).
 BRAMY2036567// SH3 domain
 BRAMY2039872// Interferon alpha/beta domain
- 20 BRAMY2040592// Transient receptor
 BRAMY2042760// PH domain// PH domain
 BRAMY2046989// TPR Domain// TPR Domain// TPR Domain// TPR
 Domain// TPR Domain// TPR Domain
 BRAMY2047746// Sodium and potassium ATPases// Ank repeat// Ank
 25 repeat// Ank repeat
 BRAMY2047751// Regulator of G protein signaling domain// Raf-
 like Ras-binding domain// Raf-like Ras-binding domain
 BRAMY3001794// Geminivirus coat protein// PH domain// Leucine
 Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
 30 Leucine Rich Repeat// Leucine Rich Repeat
 BRAMY3002803// P21-Rho-binding domain// Eukaryotic protein
 kinase domain// Eukaryotic protein kinase domain
 BRAMY3004224// Leucine rich repeat N-terminal domain// Leucine
 Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
 35 Leucine Rich Repeat// Leucine Rich Repeat// Leucine rich repeat
 C-terminal domain

- BRAMY3004919// Copper/zinc superoxide dismutase (SODC)//
 Adenylate and Guanylate cyclase catalytic domain// Adenylate and
 Guanylate cyclase catalytic domain
 BRAMY3005091// Phosphatidylinositol 3- and 4-kinases
- 5 BRAMY3005932// Ank repeat
 BRAMY3008466// WD domain, G-beta repeat// WD domain, G-beta
 repeat// WD domain, G-beta repeat// WD domain, G-beta repeat//
 WD domain, G-beta repeat// WD domain, G-beta repeat
 BRAMY4000095// Eukaryotic protein kinase domain
- 10 BRAMY4000277// Immunoglobulin domain// Immunoglobulin domain
 BRAWH1000127// Plexin repeat// Thrombospondin type 1 domain
 BRAWH2001395// Myelin basic protein
 BRAWH2001940// NOL1/NOP2/sun family
 BRAWH2007658// Immunoglobulin domain
- 15 BRAWH2010000// Xylose isomerase
 BRAWH2014414// Cadherin domain// Cadherin domain// Cadherin
 domain// Fructose-bisphosphate aldolase class-// Cadherin
 domain// Cadherin domain// Cadherin cytoplasmic region
 BRAWH2014662// K⁺ channel tetramerisation domain// ATP synthase
- 20 Alpha chain, C terminal
 BRAWH2014954// PDZ domain (Also known as DHR or GLGF).// PDZ
 domain (Also known as DHR or GLGF).
 BRAWH2016702// AMP-binding enzyme
 BRAWH3000078// Adaptin N terminal region// Activin types I and
- 25 II receptor domain
 BRAWH3000314// Fibronectin type III domain
 BRAWH3000491// Ribosomal protein S12e
 BRAWH3001326// Protein phosphatase 2C
 BRAWH3001891// YCF9
- 30 BRAWH3002574// Calpain large subunit, domain III// EF hand
 BRAWH3002600// Cadherin domain// Cadherin domain// Cadherin
 domain
 BRAWH3002821// C2 domain// C2 domain
 BRAWH3003727// ribonuclease.
- 35 BRAWH3005912// bZIP transcription factor// bZIP transcription
 factor// Troponin// TBC domain

BRAWH3008341// Pentaxin family
 BRCAN2002562// RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)
 BRCAN2002856// Phosphotyrosine interaction domain (PTB/PID).
 5 BRCAN2002948// Adaptin N terminal region
 BRCAN2006063// von Willebrand factor type A domain
 BRCAN2009203// SAM domain (Sterile alpha motif)
 BRCAN2009432// ADP-ribosylation factor family// Ras family
 BRCAN2015464// Gag P30 core shell protein
 10 BRCAN2016619// SH3 domain
 BRCAN2017717// Squash family of serine protease inhibitors
 BRCAN2021028// Aminopeptidase I zinc metalloprotease (M18)
 BRCAN2024451// Raf-like Ras-binding domain// Leptin// Raf-like Ras-binding domain// LGN motif, putative GEF specific for G-
 15 alpha GTPase
 BRCAN2028355// Eukaryotic protein kinase domain
 BRCOC2001505// Myelin basic protein
 BRCOC2003213// ATP synthase, Delta/Epsilon chain// tRNA synthetase class II core domain (G, H, P, S and T)
 20 BRCOC2016525// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat
 BRHIP2000819// WD domain, G-beta repeat
 BRHIP2000920// Ribosomal protein S9/S16
 BRHIP2003786// Ank repeat// Ank repeat// Ank repeat// BTB/POZ
 25 domain
 BRHIP2004359// Metallo-beta-lactamase superfamily
 BRHIP2004814// Phosphate transporter family
 BRHIP2005236// Galactose binding lectin domain// Latrophilin
 Cytoplasmic C-terminal region
 30 BRHIP2005932// PH domain
 BRHIP2007616// Sema domain
 BRHIP2009414// Uncharacterized protein family
 BRHIP2021615// RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 35 domain)
 BRHIP2026288// Prolyl oligopeptidase family// alpha/beta

hydrolase fold

BRHIP3000339// Myelin basic protein

BRHIP3008183// Adaptin N terminal region// tRNA (Guanine-1)-methyltransferase

5 BRHIP3008313// Ank repeat

BRHIP3008405// PH domain

BRHIP3024118// Sodium:galactoside symporter family//
Monocarboxylate transporter

BRHIP3025161// Phosphotriesterase family// RhoGEF domain// PH

10 domain// Thaumatin family// GATA zinc finger// FYVE zinc
finger// PH domain

BRHIP3027137// Aldehyde dehydrogenase family

BRSSN2000684// Protein-tyrosine phosphatase// Dual specificity phosphatase, catalytic domain

15 BRSSN2004719// Src homology domain 2

BRSTN2000872// Thioredoxin// Thioredoxin

BRSTN2001067// Rifin/stevor family

BRSTN2004863// Chitin synthase// Glycosyl transferases//
Similarity to lectin domain of ricin beta-chain, 3 copies.

20 BRSTN2004987// tRNA synthetases class I (W and Y)

BRSTN2008418// RhoGAP domain

BRSTN2013741// Ras family

BRTHA2000855// Extracellular link domain

BRTA2004978// Collagen triple helix repeat (20 copies)

25 BRTHA2005579// von Willebrand factor type C domain// von

Willebrand factor type C domain// von Willebrand factor type C
domain// von Willebrand factor type C domain// von Willebrand
factor type C domain// von Willebrand factor type C domain// vo
Willebrand factor type C domain// von Willebrand factor type C

30 domain// von Willebrand factor type C domain// von Willebrand
factor type C domain// von Willebrand factor type C domain// von
Willebrand factor type C domain

BRTHA2007122// Ank repeat// Ank repeat// Ank repeat// Ank repeat// SAM domain (Sterile alpha motif)

35 BRTHA2008527// Leucine Rich Repeat// Leucine Rich Repeat//

Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat

- BRTHA2009311// Vertebrate galactoside-binding lectins
 BRTHA2010884// Thrombospondin type 1 domain// CUB domain
 BRTHA2012980// Cytochrome P450
 BRTHA2013262// Keratin, high sulfur B2 protein
- 5 BRTHA2014792// SET domain
 BRTHA2015406// UBA domain
 BRTHA2015878// Gram-negative pili assembly chaperone
 BRTHA2016496// Peptidase C13 family
 BRTHA2018591// GTPase of unknown function
- 10 BRTHA2018624// Galactose binding lectin domain// Activin types I
 and II receptor domain// Galactose binding lectin domain
 BRTHA2018707// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)
 BRTHA2019048// Domain of unknown function DUF71
- 15 BRTHA3002401// Ornithine decarboxylase antizyme
 BRTHA3002427// Sulfate transporter family//
 Sodium:neurotransmitter symporter family
 BRTHA3003074// Fanconi anaemia group C protein
 BRTHA3003449// Myosin head (motor domain)
- 20 BRTHA3005046// Collagen triple helix repeat (20 copies)
 BRTHA3008310// Homeobox domain
 BRTHA3008778// AMP-binding enzyme
 BRTHA3009037// C2 domain// PDZ domain (Also known as DHR or
 GLGF).// Regulator of G protein signaling domain// Regulator of
- 25 G protein signaling domain
 BRTHA3009090// Cyclic nucleotide-binding domain// Cyclic
 nucleotide-binding domain// Cyclic nucleotide-binding domain//
 Glutathione S-transferases.// Uncharacterized protein family
 UPF0028
- 30 BRTHA3013884// Domain associated with PX domains// PX domain//
 60s Acidic ribosomal protein
 BRTHA3015815// AIR synthase related protein
 BRTHA3016917// tRNA synthetases class I (C)// tRNA synthetases
 class I (I, L, M and V)
- 35 BRTHA3017589// Immunoglobulin domain// Immunoglobulin domain//
 Hantavirus glycoprotein G2

BRTHA3017848// Glucose-6-phosphate dehydrogenase// Sugar (and
 other) transporter
 BRTHA3018656// Divalent cation transporter// Divalent cation
 transporter
 5 COLON2000568// Immunoglobulin domain// Cellulose binding
 domain// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain
 COLON2001721// C2 domain
 COLON2002520// Myosin head (motor domain)// IQ calmodulin-
 10 binding motif
 COLON2004478// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin
 domain
 CORDB1000140// TRAF-type zinc finger
 15 CORDB2000541// F-actin capping protein, beta subunit
 CTONG1000341// EGF-like domain// EGF-like domain//
 Metallothionein// EGF-like domain// EB module// EGF-like
 domain// EGF-like domain// EGF-like domain
 CTONG1000467// Zinc finger, C3HC4 type (RING finger)
 20 CTONG2000042// Bacterial regulatory proteins, gntR family//
 Alpha-2-macroglobulin family N-terminal region// Alpha-2-
 macroglobulin family
 CTONG2001877// MutT-like domain
 CTONG2004062// E1-E2 ATPase
 25 CTONG2006798// Eukaryotic protein kinase domain// Eukaryotic
 protein kinase domain
 CTONG2008233// DnaJ domain
 CTONG2009423// 7 transmembrane receptor (rhodopsin family)
 CTONG2013178// SEA domain// Trypsin
 30 CTONG2017500// F-box domain.
 CTONG2020026// Herpesvirus VP23 like capsid protein
 CTONG2024206// Neuregulin family// von Willebrand factor type A
 domain// EGF-like domain// Response regulator receiver domain//
 von Willebrand factor type A domain// von Willebrand factor type
 35 A domain
 CTONG2024749// Alpha-2-macroglobulin family

- CTONG2025496// Alpha-2-macroglobulin family N-terminal region//
Alpha-2-macroglobulin family
- CTONG2028124// AMP-binding enzyme
- CTONG2028687// TPR Domain// TPR Domain
- 5 CTONG3000084// DNA mismatch repair protein// RhoGEF domain// PH
domain// SH3 domain
- CTONG3000657// SH3 domain
- CTONG3000686// TPR Domain// TPR Domain// TPR Domain// TPR Domain
- CTONG3001123// BRCA1 C Terminus (BRCT) domain// BRCA1 C Terminus
- 10 (BRCT) domain// BRCA1 C Terminus (BRCT) domain// BRCA1 C
Terminus (BRCT) domain// BRCA1 C Terminus (BRCT) domain
- CTONG3001370// Alpha-2-macroglobulin family N-terminal region//
Alpha-2-macroglobulin family
- CTONG3002127// C2 domain// C2 domain
- 15 CTONG3002674// Calponin homology (CH) domain
- CTONG3003737// Leucine rich repeat N-terminal domain// Leucine
Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine
- 20 Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
Repeat// Leucine Rich Repeat// Leucine rich repeat C-terminal
domain// Fusion glycoprotein F0.
- CTONG3003972// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
25 domain)
- CTONG3004072// Beta type Zein// Keratin, high sulfur B2 protein
- CTONG3005325// TS-N domain// UBA domain// Transposase
- CTONG3005648// Putative undecaprenyl diphosphate synthase
- CTONG3006067// DnaJ central domain (4 repeats)
- 30 CTONG3006186// PDZ domain (Also known as DHR or GLGF)//
Apolipoprotein A1/A4/E family// WW domain
- CTONG3008831// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
domain)
- CTONG3009028// Helicases conserved C-terminal domain
- 35 CTONG3009385// TPR Domain// TPR Domain// TPR Domain// TPR
Domain// TPR Domain// TPR Domain// TPR Domain// TPR Domain// TPR

Domain// TPR Domain
 D3OST2002182// Glycosyl transferase family 8
 D3OST2002648// 7 transmembrane receptor (rhodopsin family)// 7
 transmembrane receptor (rhodopsin family)
 5 D3OST3000169// SH3 domain// SAM domain (Sterile alpha motif)
 DFNES2000146// Plexin repeat// Thrombospondin type 1 domain
 DFNES2001108// PH domain
 DFNES2005266// Thrombospondin type 1 domain
 DFNES2011499// WD domain, G-beta repeat
 10 FCBBF3004502// Terpene synthase family// YCF9
 FCBBF3007540// RhoGEF domain// PH domain
 FCBBF3009888// Keratin, high sulfur B2 protein// u-PAR/Ly-6
 domain
 FCBBF3012170// Thrombospondin type 1 domain
 15 FCBBF3012288// Fibronectin type III domain
 FCBBF3013307// DEAD/DEAH box helicase// Helicases conserved C-
 terminal domain
 FEBRA2000253// Flagellar L-ring protein
 FEBRA2007708// Fusion glycoprotein F0.// Xanthine/uracil
 20 permeases family// Sulfate transporter family
 FEBRA2007801// IBR domain
 FEBRA2008311// 7 transmembrane receptor (rhodopsin family)// 7
 transmembrane receptor (rhodopsin family)
 FEBRA2008468// alpha/beta hydrolase fold
 25 FEBRA2021571// von Willebrand factor type D domain
 FEBRA2024150// DENN (AEX-3) domain
 FEBRA2026984// tRNA synthetases class I (W and Y)// Putative
 tRNA binding domain
 HCASM2001301// Eukaryotic protein kinase domain
 30 HCASM2002918// ATP synthase Alpha chain, C terminal
 HCHON2000028// RhoGAP domain
 HCHON2001084// FecCD transport family// Sugar (and other)
 transporter
 HCHON2001217// Cullin family
 35 HCHON2001577// Collagen triple helix repeat (20 copies)// Heavy-
 metal-associated domain

HCHON2001712// Sodium:dicarboxylate symporter family
 HCHON2002676// Glycosyl hydrolases family 39
 HCHON2004007// E1-E2 ATPase
 HCHON2004531// Ubiquitin family// UBA domain// Integrins, beta
 5 chain// UBA domain
 HCHON2004776// Protein of unknown function DUF93
 HCHON2005921// PMP-22/EMP/MP20/Claudin family
 HCHON2006250// WD domain, G-beta repeat// WD domain, G-beta
 repeat// WD domain, G-beta repeat// WD domain, G-beta repeat
 10 HEART1000139// Troponin
 HEART2001680// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin
 domain
 HEART2001756// Bacterial transcriptional regulator
 15 HEART2006131// Thiamine pyrophosphate enzymes
 HEART2006909// CBS domain// CBS domain
 HEART2010495// Tau and MAP proteins, tubulin-binding
 HHDPC1000118// Adenylate kinase// Shikimate kinase//
 Deoxynucleoside kinase// Pyridoxal-phosphate dependent enzyme
 20 HLUNG1000017// Reprolysin family propeptide
 HLUNG2000014// Lectin C-type domain
 HLUNG2001996// SH3 domain
 HLUNG2002465// PH domain// RhoGEF domain// SH3 domain
 HLUNG2002958// EF hand
 25 HLUNG2011298// Oxidoreductase FAD/NAD-binding domain
 HLUNG2013851// Pumilio-family RNA binding domains (aka PUM-HD,
 Pumilio homology domain)// Pumilio-family RNA binding domains
 (aka PUM-HD, Pumilio homology domain)
 HLUNG2014262// von Willebrand factor type A domain// von
 30 Willebrand factor type A domain
 HLUNG2017350// Connexin
 HSYRA2005456// Fibronectin type III domain
 HSYRA2005496// emp24/gp25L/p24 family
 HSYRA2009075// Fibronectin type III domain
 35 HSYRA2009102// Integral membrane protein DUF6
 IMR322000127// Zinc finger, C2H2 type

IMR322000917// Zinc finger, C2H2 type
 IMR322006495// Tropomyosins
 KIDNE1000064// Integral membrane protein DUF7// Sugar (and
 other) transporter// Transmembrane 4 family// Zn-finger in Ran
 5 binding protein and others.
 KIDNE2000832// Amino acid permease// Transmembrane amino acid
 transporter protein// Sodium/hydrogen exchanger family
 KIDNE2000846// Sodium:neurotransmitter symporter family
 KIDNE2001361// Domain of unknown function DUF19
 10 KIDNE2001847// RhoGAP domain// SH3 domain
 KIDNE2006580// Cytochrome P450
 KIDNE2011635// Sodium:solute symporter family
 KIDNE2012945// CUB domain// Pentaxin family
 LYMPB2000083// Class I Histocompatibility antigen, domains alpha
 15 1 and 2// Class I Histocompatibility antigen, domains alpha 1
 and 2// Immunoglobulin domain
 MESAN2006563// PH domain
 MESAN2012054// PQQ enzyme repeat// PQQ enzyme repeat
 NESOP2001433// Immunoglobulin domain// Immunoglobulin domain//
 20 Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin
 domain
 NESOP2001656// Polyomavirus coat protein
 NHNPC2001816// Regulator of G protein signaling domain
 NOVAR2000136// Thioredoxin// CTF/NF-I family// Calsequestrin
 25 NOVAR2001108// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain
 NT2NE2003252// Eukaryotic protein kinase domain
 NT2NE2006531// KRAB box// PHD-finger// Transcription factor S-II
 (TFIIS)// Zinc finger, C2H2 type
 30 NT2NE2006909// Influenza Matrix protein (M1)// metalloproteinase
 family M24
 NT2RI2004618// Cytosolic long-chain acyl-CoA thioesterase
 NT2RI2005166// F-box domain// WD domain, G-beta repeat
 NT2RI2008724// GGL domain
 35 NT2RI2025909// Mitochondrial carrier proteins// Mitochondrial
 carrier proteins// Mitochondrial carrier proteins

- NT2RI2025957// PDZ domain (Also known as DHR or GLGF).
- NT2RI3000622// TBC domain
- NT2RI3002842// Hsp20/alpha crystallin family
- NT2RI3003382// Rotavirus RNA-binding Protein 53 (NS53)
- 5 NT2RI3004510// Pyridine nucleotide-disulphide oxidoreductase//
FAD binding domain// Flavin containing amine oxidase// Phytoene
dehydrogenase related enzyme
- NT2RI3006171// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain
- 10 NT2RI3006340// Immunoglobulin domain// Immunoglobulin domain//
Fibronectin type III domain// Fibronectin type III domain//
Fibronectin type III domain// Fibronectin type III domain//
Fibronectin type III domain// Immunoglobulin domain// Ribosomal
protein S14p/S29e // Immunoglobulin domain// Immunoglobulin
- 15 domain
- NT2RI3006376// DENN (AEX-3) domain// PLAT/LH2 domain
- NT2RI3006673// Fibronectin type III domain// Fibronectin type
III domain// Fibronectin type III domain// Protein-tyrosine
phosphatase// Dual specificity phosphatase, catalytic domain//
- 20 Protein-tyrosine phosphatase
- NT2RI3007158// FYVE zinc finger
- NT2RI3007291// Collagen triple helix repeat (20 copies)
- NT2RI3007543// DnaJ domain
- NT2RI3007978// Glutamine amidotransferase class-I
- 25 NT2RI3008652// FERM domain (Band 4.1 family)// Uncharacterised
protein family UPF0058// Biopterin-dependent aromatic amino acid
hydroxylase
- NT2RP7000359// FERM domain (Band 4.1 family)// Insulin-like
growth factor binding proteins// PDZ domain (Also known as DHR
- 30 or GLGF).
- NT2RP7000466// CUB domain// CXXC zinc finger// EGF-like domain//
Granulins// Keratin, high sulfur B2 protein// Trypsin Inhibitor
like cysteine rich domain
- NT2RP7004027// CUB domain// Sushi domain (SCR repeat)
- 35 NT2RP7004123// Hepatitis delta virus delta antigen
- NT2RP7005118// GTPase-activator protein for Ras-like GTPase// IQ

[illegible]

repeat// Ank repeat
 OCBBF2008770// TBC domain
 OCBBF2010140// Alphavirus E1 glycoprotein
 OCBBF2010416// Major intrinsic protein
 5 OCBBF2019823// lactate/malate dehydrogenase
 OCBBF2020838// Fork head domain
 OCBBF2021323// Regulatory subunit of type II PKA R-subunit
 OCBBF2022351// WD domain, G-beta repeat// WD domain, G-beta
 repeat// WD domain, G-beta repeat// WD domain, G-beta repeat//
 10 WD domain, G-beta repeat// WD domain, G-beta repeat
 OCBBF2025527// NAD-dependent glycerol-3-phosphate dehydrogenase
 OCBBF2031167// Reprolysin family propeptide// Pancreatic hormone
 peptides// Reprolysin (M12B) family zinc metalloprotease//
 Disintegrin// Beta defensin// Radical activating enzymes// EB
 15 module// EGF-like domain// Delta serrate ligand
 OCBBF2033869// CUB domain
 OCBBF2035110// PLAT/LH2 domain
 OCBBF2036743// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 20 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// PHD-finger// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Transcription factor S-II (TFIIS)// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 25 C2H2 type// Zinc finger, C2H2 type
 OCBBF2037340// Alpha crystallin A chain, N terminal// Archaeal
 ATPase// Dual specificity phosphatase, catalytic domain
 OCBBF2037547// PH domain// Raf-like Ras-binding domain//
 Transaldolase// PDZ domain (Also known as DHR or GLGF).// RhoGEF
 30 domain// PH domain
 OCBBF2037598// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Fibronectin type III domain//
 Fibronectin type III domain
 OCBBF2037638// Pyridine nucleotide-disulphide oxidoreductase//
 35 Pyridine nucleotide-disulphide oxidoreductase
 OCBBF2038317// Syndecan domain// BNR repeat// BNR repeat// BNR

repeat// BNR repeat// BNR repeat// PKD domain
 OCBBF3009279// KH domain// Zinc finger, C3HC4 type (RING finger)
 PEBLM2002594// ABC transporter// Aldehyde oxidase and xanthine
 dehydrogenase, C terminus
 5 PEBLM2004666// WD domain, G-beta repeat// Gram-negative pili
 assembly chaperone// WD domain, G-beta repeat// WD domain, G-
 beta repeat// WD domain, G-beta repeat// WD domain, G-beta
 repeat// WD domain, G-beta repeat
 PERIC1000147// Syndecan domain
 10 PERIC2001228// Leucine Rich Repeat// Leucine Rich Repeat//
 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
 Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 PERIC2003720// Ezrin/radixin/moesin family
 PERIC2009086// 7 transmembrane receptor (rhodopsin family)//
 15 Peroxidase
 PLACE5000171// Chitin binding Peritrophin-A domain// HYR
 domain// Plant PEC family metallothionein// Sushi domain (SCR
 repeat)// von Willebrand factor type A domain
 PLACE5000282// Collagen triple helix repeat (20 copies)// Heavy-
 20 metal-associated domain
 PLACE6012574// ENV polyprotein (coat polyprotein)
 PLACE6019385// REV protein (anti-repression trans-activator
 protein)
 PLACE6020031// Ank repeat// Ank repeat
 25 PLACE7000514// Filamin/ABP280 repeat.
 PLACE7002641// LPP20 lipoprotein precursor// HRDC domain//
 Dihydrodipicolinate synthetase family
 PLACE7006051// ENV polyprotein (coat polyprotein)
 PLACE7008431// Phosphatidylinositol-4-phosphate 5-Kinase
 30 PROST1000184// 7 transmembrane receptor (Secretin family)
 PROST2008993// BRCA1 C Terminus (BRCT) domain
 PROST2016462// WW domain// PH domain// RhoGAP domain
 PROST2017367// Transglutaminase family
 PROST2018090// Sushi domain (SCR repeat)// Sushi domain (SCR
 35 repeat)// Chitin binding Peritrophin-A domain// HYR domain//
 Sushi domain (SCR repeat)

- PROST2018511// Ras association (RalGDS/AF-6) domain// PH domain// Src homology domain 2
- PUAEN2002616// Src homology domain 2
- PUAEN2005930// Extracellular link domain// PH domain
- 5 PUAEN2006328// TBC domain
- PUAEN2007044// TruB family pseudouridylate synthase (N terminal domain)
- PUAEN2009174// L1 (late) protein// Alpha-2-macroglobulin family
- PUAEN2009795// Ribosomal protein S3, C-terminal domain// EGF-like domain// Clq domain
- 10 PUAEN2009852// Eukaryotic protein kinase domain
- RECTM2000433// Jacalin-like lectin domain
- SKMUS2006394// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat
- 15 SMINT1000192// Small hydrophilic plant seed proteins
- SMINT2002743// ENV polyprotein (coat polyprotein)
- SMINT2010076// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain
- 20 SMINT2011888// Immunoglobulin domain// Cellulose binding domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain
- SMINT2015787// Serum amyloid A protein// Immunoglobulin domain
- SPLEN2001599// Immunoglobulin domain
- 25 SPLEN2002147// Phosphatidylinositol transfer protein
- SPLEN2002467// DB module// F-box domain// Leucine Rich Repeat
- SPLEN2006122// RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP domain)
- 30 SPLEN2010912// DEAD/DEAH box helicase// Helicases conserved C-terminal domain
- SPLEN2012624// Ank repeat// Ank repeat// Ank repeat// Sodium:neurotransmitter symporter family
- SPLEN2015267// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain
- 35 SPLEN2015679// ATP synthase delta (OSCP) subunit

- SPLEN2021701// Class I Histocompatibility antigen, domains alpha 1 and 2// Class I Histocompatibility antigen, domains alpha 1 and 2// Immunoglobulin domain
 SPLEN2030335// AMP-binding enzyme
- 5 SPLEN2031547// Integral membrane protein// Integral membrane protein
 SPLEN2031780// Domain of unknown function DUF139// Domain of unknown function DUF139
 SPLEN2033098// TNFR/NGFR cysteine-rich region
- 10 SPLEN2034081// Insulin-like growth factor binding proteins
 SPLEN2036326// GPR1/FUN34/yaaH family// PMP-22/EMP/MP20/Claudin family
 SPLEN2036821// Mitochondrial carrier proteins
 SPLEN2037722// Immunoglobulin domain// Immunoglobulin domain
- 15 STOMA2004294// Immunoglobulin domain
 SYNOV2005448// Apidaecin
 SYNOV2005817// Domain of unknown function DUF19// Tissue factor
 SYNOV2006430// Nitrogen regulatory protein P-II
 SYNOV2014400// EGF-like domain// Granulins// Granulins// EGF-like domain
- 20 SYNOV2021320// Src homology domain 2
 SYNOV3000231// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain
 SYNOV3000302// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain
- 25 SYNOV4002392// lactate/malate dehydrogenase
 SYNOV4002883// Adenosylmethionine decarboxylase
 SYNOV4007521// Immunoglobulin domain// Immunoglobulin domain
 SYNOV4007553// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine rich repeat
- 30 C-terminal domain// TIR domain
- 35 SYNOV4007671// Syntaxin// Fusion glycoprotein F0.
 SYNOV4008440// Adaptin N terminal region

- TBAES2001171// NOL1/NOP2/sun family
TBAES2001229// Ribosomal protein L23
TBAES2003550// Glucose-6-phosphate dehydrogenase
TBAES2004055// Ribosomal protein S11
- 5 TESOP2000801// Eukaryotic protein kinase domain
TESOP2001166// Src homology domain 2
TESOP2001953// Leucine Rich Repeat// Leucine Rich Repeat//
Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
Repeat// Leucine Rich Repeat// Leucine Rich Repeat
- 10 TESOP2004114// Lysyl hydrolase// Lysyl hydrolase
TESOP2005485// Immunoglobulin domain// Immunoglobulin domain
TESOP2009121// DNA polymerase (viral) C-terminal domain
TESTI1000257// GntP family permease// Sugar (and other)
transporter
- 15 TESTI1000390// Bromodomain// Atrial natriuretic peptide
TESTI1000545// TPR Domain// TPR Domain// TPR Domain// LPP20
lipoprotein precursor// HRDC domain// Adaptin N terminal
region// Dihydrodipicolinate synthetase family
TESTI2000443// Leucine Rich Repeat// Leucine Rich Repeat//
- 20 Leucine Rich Repeat
TESTI2000644// Small cytokines (intecrine/chemokine),
interleukin-8 like
TESTI2002036// Ion transport protein// Transmembrane region
cyclic Nucleotide Gated Channel
- 25 TESTI2002618// Reprolysin (M12B) family zinc metalloprotease//
Reprolysin family propeptide
TESTI2002928// Syndecan domain
TESTI2003347// Connexin// Cytochrome b559, alpha (gene psbE) and
beta (gene psbF) subunits.
- 30 TESTI2004700// Leucine Rich Repeat// Leucine Rich Repeat//
Leucine Rich Repeat// Leucine Rich Repeat
TESTI2005610// CD36 family
TESTI2006648// Ion transport protein// ABC transporter
transmembrane region.// PEP-utilizing enzymes//
- 35 Phosphoribulokinase// Elongation factor Tu family
TESTI2014716// RNA recognition motif. (a.k.a. RRM, RBD, or RNP

domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)
 TESTI2024567// 7 transmembrane receptor (metabotropic glutamate
 5 family)
 TESTI2026505// Domain of unknown function DUF123// FYVE zinc
 finger// PH domain// RhoGEF domain
 TESTI2027019// Leucine Rich Repeat
 TESTI2034520// ABC transporter
 10 TESTI2034767// Collagen triple helix repeat (20 copies)//
 Collagen triple helix repeat (20 copies)// Collagen triple helix
 repeat (20 copies)// Collagen triple helix repeat (20 copies)//
 Collagen triple helix repeat (20 copies)// Collagen triple helix
 repeat (20 copies)// Collagen triple helix repeat (20 copies)
 15 TESTI2040018// Hepatitis C virus RNA dependent RNA polymerase
 TESTI2044796// Zinc finger, C3HC4 type (RING finger)
 TESTI2049469// Chitinases class I
 TESTI2050137// Phosphotyrosine interaction domain (PTB/PID)//
 Src homology domain 2
 20 TESTI2050987// Zinc finger, C3HC4 type (RING finger)// SPRY
 domain
 TESTI2051867// Ribosomal protein L4/L1 family
 TESTI2052693// Src homology domain 2
 TESTI2053621// EF hand// EF hand// Glutathione peroxidases// EF
 25 hand
 TESTI4000014// PPR repeat// PPR repeat// PPR repeat// PPR
 repeat// PPR repeat// ENTH domain// PPR repeat// PPR repeat//
 PPR repeat// Ribosomal protein L22p/L17e// Interleukin 10// PPR
 repeat
 30 TESTI4000079// Phosphopantetheine attachment site// PH domain
 TESTI4000288// Dynamin GTPase effector domain
 TESTI4000349// HECT-domain (ubiquitin-transferase).
 TESTI4000462// Keratin, high sulfur B2 protein
 TESTI4000724// Vesicular monoamine transporter// Sugar (and
 35 other) transporter// Monocarboxylate transporter
 TESTI4000970// Ezrin/radixin/moesin family

TESTI4001148// Enol-ase// ATP synthase delta (OSCP) subunit
 TESTI4001527// UDP-glucoronosyl and UDP-glucosyl transferase
 TESTI4001561// Acyltransferase
 TESTI4002491// NSF attachment protein
 5 TESTI4002552// E1-E2 ATPase// Na⁺/K⁺ ATPase C-terminus
 TESTI4006326// von Willebrand factor type A domain
 TESTI4006546// Tudor domain// Tudor domain// Tudor domain
 TESTI4006819// Enol-ase
 TESTI4007064// DENN (AEX-3) domain// PPR repeat// LIM domain
 10 containing proteins
 TESTI4007163// Sodium:neurotransmitter symporter family
 TESTI4007382// Nickel-dependent hydrogenases
 TESTI4007778// Calponin homology (CH) domain// Calponin homology
 (CH) domain// Spectrin repeat// Spectrin repeat// Spectrin
 15 repeat// Spectrin repeat// EF hand// EF hand
 TESTI4007810// DNA ligase
 TESTI4008429// E1-E2 ATPase// Domain of unknown function
 TESTI4009160// Kinesin motor domain// Kinesin motor domain
 TESTI4009374// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 20 domain)// Ham1 family// RNA recognition motif. (a.k.a. RRM, RBD,
 or RNP domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)// Double-stranded RNA binding motif
 TESTI4009608// emp24/gp25L/p24 family
 TESTI4009881// Bacterial type II secretion system protein
 25 TESTI4010713// C2 domain
 TESTI4010831// WD domain, G-beta repeat
 TESTI4010851// Ubiquitin carboxyl-terminal hydrolases//
 Ubiquitin carboxyl-terminal hydrolase f// eIF4-gamma/eIF5/eIF2-
 epsilon// Rifin/stevor family
 30 TESTI4011484// SAM domain (Sterile alpha motif)
 TESTI4011745// Bromodomain
 TESTI4011956// PH domain
 TESTI4012406// Kringle domain
 TESTI4012448// Matrixin// Hemopexin// Hemopexin// Hemopexin//
 35 Hemopexin
 TESTI4012679// DNA photolyase

TESTI4013369// ATP synthase subunit C
 TESTI4014924// Floricaula / Leafy protein
 TESTI4015471// Tropomyosins
 TESTI4016110// DnaJ domain
 5 TESTI4016882// SH3 domain// SH3 domain
 TESTI4016925// Aminotransferases class-III// Pyridoxal-phosphate
 dependent enzyme
 TESTI4017001// bZIP transcription factor
 TESTI4017137// Keratin, high sulfur B2 protein
 10 TESTI4017575// MSP (Major sperm protein) domain
 TESTI4018152// FERM domain (Band 4.1 family)
 TESTI4018555// Granulins
 TESTI4018835// E1-E2 ATPase// E1-E2 ATPase
 TESTI4018886// Fibronectin type III domain// Fibronectin type
 15 III domain// Fibronectin type III domain
 TESTI4019140// GATA zinc finger
 TESTI4019566// Helicases conserved C-terminal domain// Tudor
 domain
 TESTI4019843// SH3 domain// RhoGEF domain// PH domain
 20 TESTI4020092// Laminin G domain
 TESTI4020920// D-isomer specific 2-hydroxyacid dehydrogenase,
 catalytic domain
 TESTI4021294// Cyclin// Immunoglobulin domain
 TESTI4021478// E1-E2 ATPase// E1-E2 ATPase// E1-E2 ATPase
 25 TESTI4022716// DEAD/DEAH box helicase// Helicases conserved C-
 terminal domain
 TESTI4023555// Lectin C-type domain
 TESTI4025920// Adaptin N terminal region
 TESTI4026192// Domain of unknown function
 30 TESTI4026510// DEAD/DEAH box helicase// Helicases conserved C-
 terminal domain
 TESTI4027557// Vertebrate galactoside-binding lectins//
 Vertebrate galactoside-binding lectins
 TESTI4028059// Phosphofructokinase// Phosphofructokinase
 35 TESTI4028429// WAP-type (Whey Acidic Protein) 'four-disulfide
 core'

- TESTI4028612// Major intrinsic protein
 TESTI4028880// Sugar (and other) transporter//
 Sodium:galactoside symporter family
 TESTI4028983// Serum amyloid A protein
- 5 TESTI4029836// E1-E2 ATPase// E1-E2 ATPase// Neuraxin and MAP1B
 proteins// E1-E2 ATPase// Cof family
 TESTI4030505// Metallothionein family 5
 TESTI4030603// Collagen triple helix repeat (20 copies)
 TESTI4032895// ATP synthase, Delta/Epsilon chain//
- 10 Tropomyosins// Protein of unknown function
 TESTI4034432// Peptidyl-tRNA hydrolase domain
 TESTI4034632// Ribosomal protein S3, C-terminal domain//
 Similarity to lectin domain of ricin beta-chain, 3 copies
 TESTI4034912// Adhesin lipoprotein// Vesiculovirus
- 15 phosphoprotein
 TESTI4035063// Myosin tail// CAP-Gly domain
 TESTI4035498// Cell division protein
 TESTI4036909// Viral (Superfamily 1) RNA helicase// Heavy-metal-
 associated domain// Viral (Superfamily 1) RNA helicase
- 20 TESTI4038492// Serum amyloid A protein
 TESTI4039659// DnaJ domain
 TESTI4041053// Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Armadillo/beta-catenin-like repeats// Armadillo/beta-
 catenin-like repeats// Armadillo/beta-catenin-like repeats//
- 25 Armadillo/beta-catenin-like repeats// Armadillo/beta-catenin-
 like repeats// Armadillo/beta-catenin-like repeats
 TESTI4044084// Domain of unknown function
 TESTI4046487// Hantavirus nucleocapsid protein
 TESTI4046819// Metallothionein// PTS HPr component
- 30 phosphorylation sites
 THYMU1000496// Kinesin motor domain
 THYMU2004693// CX module
 THYMU2005303// Immunoglobulin domain
 THYMU2006420// NAD(P) transhydrogenase beta subunit
- 35 THYMU2008725// Similarity to lectin domain of ricin beta-chain,
 3 copies.// Fibronectin type III domain// Fibronectin type III

domain// Fibronectin type III domain// Fibronectin type III
 domain
 THYMU2009425// 7 transmembrane receptor (rhodopsin family)
 THYMU2011548// 7 transmembrane receptor (rhodopsin family)
 5 THYMU2011736// EGF-like domain// EGF-like domain// EB module//
 EGF-like domain// TB domain// EGF-like domain// EGF-like domain
 THYMU2016204// Metallothionein
 THYMU2019210// Class I Histocompatibility antigen, domains alpha
 1 and 2// Class I Histocompatibility antigen, domains alpha 1
 10 and 2// Immunoglobulin domain
 THYMU2023711// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain
 THYMU2027695// Immunoglobulin domain// Immunoglobulin domain//
 Immunoglobulin domain// Immunoglobulin domain
 15 THYMU2027734// Parvovirus coat protein VP2
 THYMU2032014// SH3 domain
 THYMU2033079// ABC transporter
 THYMU2035319// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 20 domain)// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)
 THYMU2035735// FHA domain// SNAP-25 family// Borrelia ORF-A
 THYMU2036459// GTP1/OBG family
 THYMU2037226// SH3 domain// TPR Domain// TPR Domain// TPR
 25 Domain// TPR Domain
 THYMU2038369// Regulatory subunit of type II PKA R-subunit
 THYMU2038615// PH domain
 THYMU2038797// Lectin C-type domain
 THYMU2041015// Sodium:galactoside symporter family// LacY
 30 proton/sugar symporter// Domain of unknown function//
 Monocarboxylate transporter// Polysaccharide biosynthesis
 protein// Sugar (and other) transporter
 THYMU3000028// Zona pellucida-like domain
 THYMU3000133// Viral (Superfamily 1) RNA helicase
 35 THYMU3001234// PH domain
 THYMU3001379// 3'5'-cyclic nucleotide phosphodiesterase//

- Elongation factor Tu family
 THYMU3003212// Cytidine and deoxycytidylate deaminase zinc-binding region
 THYMU3003763// Leucine rich repeat N-terminal domain//
- 5 Polyomavirus coat protein
 THYMU3004835// Galactosyltransferase
 THYMU3006172// C2 domain// C2 domain
 THYMU3007137// PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).
- 10 THYMU3008171// TPR Domain
 THYMU3008436// Phosphofructokinase// Phosphofructokinase
 TLIVE2000023// Integral membrane protein
 TLIVE2002336// Metalloenzyme superfamily// Sulfatase// Type I phosphodiesterase / nucleotide pyrophosphatase
- 15 TLIVE2002338// Transforming growth factor beta like domain
 TLIVE2002690// von Willebrand factor type D domain
 TLIVE2003225// CUB domain// Sushi domain (SCR repeat)// CUB domain// Sushi domain (SCR repeat)
 TLIVE2003381// 7 transmembrane receptor (metabotropic glutamate family)
- 20 TLIVE2007132// Syndecan domain
 TLIVE2008229// TPR Domain// TPR Domain
 TLIVE2009541// TBC domain
 TRACH2001443// TIR domain
- 25 TRACH2001549// Cyclic nucleotide-binding domain
 TRACH2005811// Kinesin motor domain
 TRACH2006387// NADH-ubiquinone oxidoreductase chain 4, // 7 transmembrane receptor (rhodopsin family)
 TRACH2007059// DnaJ domain// Integrins, beta chain// PA domain
- 30 TRACH2009310// Armadillo/beta-catenin-like repeats// Eukaryotic protein kinase domain// RIO1/ZK632.3/MJ0444 family
 TRACH2019473// Iron/manganese superoxide dismutases (SODM)
 TRACH2021398// RhoGAP domain
 TRACH2022425// Immunoglobulin domain// Subtilase family//
- 35 Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain// Immunoglobulin domain

- TRACH2022553// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain
- TRACH2022649// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain
- 5 TRACH2023299// Squalene and phytoene synthases// PH domain//
tRNA synthetases class I (E and Q)
TRACH2025535// PH domain
TRACH2025749// Zinc finger, C3HC4 type (RING finger)
TRACH3001427// UBX domain
- 10 TRACH3002168// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain
TRACH3003379// Protein phosphatase 2A regulatory B subunit
TRACH3004786// PMP-22/EMP/MP20/Claudin family
TRACH3004840// Rop protein
- 15 TRACH3005479// Glycosyl transferases group 1
TRACH3005549// Immunoglobulin domain// Immunoglobulin domain
TRACH3006470// Glycosyl transferases group 1
TRACH3007479// WW domain// HECT-domain (ubiquitin-transferase).
TRACH3008093// Putative undecaprenyl diphosphate synthase
- 20 TRACH3008629// Cadherin domain// Cadherin domain// Cadherin
domain// Cadherin domain// Cadherin domain// PQQ enzyme repeat
TRACH3008713// NSF attachment protein
TRACH3009455// Src homology domain 2// FERM domain (Band 4.1
family)// Src homology domain 2
- 25 TRACH3034731// Ras association (RalGDS/AF-6) domain
TRACH3035235// S-100/ICaBP type calcium binding domain
TRACH3035526// Immunoglobulin domain// Cellulose binding
domain// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain
- 30 TRACH3036193// picornavirus capsid protein// Thaumatin family//
Picornavirus core protein 2A// Picornavirus 2B protein//
Extracellular link domain// RNA helicase// 3C cysteine protease
(picornain 3C)// RNA dependent RNA polymerase
TRACH3036609// Immunoglobulin domain
- 35 TSTOM2000442// Immunoglobulin domain// Immunoglobulin domain//
Immunoglobulin domain// Immunoglobulin domain

- TSTOM2000553// C2 domain
 TUTER2000425// KRAB box
 UTERU1000024// NOL1/NOP2/sun family// NOL1/NOP2/sun family
 UTERU1000031// ENTH domain// VHS domain
 5 UTERU1000337// Protein phosphatase 2C
 UTERU2005621// Protein-tyrosine phosphatase// Dual specificity
 phosphatase, catalytic domain
 UTERU2006115// Adaptin N terminal region
 UTERU2006568// IBR domain
 10 UTERU2007724// Calponin homology (CH) domain// Calponin family//
 Calponin family// Calponin family
 UTERU2017762// Ubiquitin family
 UTERU2019706// TCP-1/cpn60 chaperonin family// TCP-1/cpn60
 chaperonin family
 15 UTERU2019940// Ribosomal protein L30p/L7e
 UTERU2025025// Eukaryotic protein kinase domain
 UTERU2026025// RNA recognition motif. (a.k.a. RRM, RBD, or RNP
 domain)
 UTERU2026090// Lectin (probable mannose binding)
 20 UTERU2033375// Ubiquitin carboxyl-terminal hydrolase family 2
 UTERU2035328// WW domain// WW domain// WW domain// FF domain//
 FF domain// FF domain
 UTERU2035331// Fibrillar collagen C-terminal domain
 UTERU2035452// EGF-like domain// Metallothionein// EGF-like
 25 domain
 UTERU2035745// Myosin head (motor domain)// Aldehyde oxidase and
 xanthine dehydrogenase, C terminus
 UTERU2036089// RhoGAP domain
 UTERU2038251// PH domain
 30 UTERU3000645// PMP-22/EMP/MP20/Claudin family
 UTERU3000828// 3'5'-cyclic nucleotide phosphodiesterase//
 Elongation factor Tu family// Elongation factor G C-terminus
 UTERU3001240// Copper/zinc superoxide dismutase (SODC)//
 Adenylate and Guanylate cyclase catalytic domain
 35 UTERU3001585// Cytochrome P450
 UTERU3001652// Wiskott Aldrich syndrome homology region 2

- UTERU3001766// Apidaecin
 UTERU3001988// TPR Domain
 UTERU3002667// Polyomavirus coat protein
 UTERU3002993// NOL1/NOP2/sun family
 5 UTERU3003116// Urease// EGF-like domain
 UTERU3003178// TPR Domain// TPR Domain// TPR Domain// TPR
 Domain// PPR repeat
 UTERU3003523// PH domain// Fibroblast growth factor
 UTERU3004616// Disintegrin
 10 UTERU3004992// Immunoglobulin domain
 UTERU3005460// Penicillin amidase// Bacterial regulatory
 proteins, lacI family
 UTERU3005585// PDZ domain (Also known as DHR or GLGF).
 UTERU3005907// Transglutaminase family
 15 UTERU3006308// Integrins, beta chain// Plexin repeat//
 Immunoglobulin domain
 UTERU3007419// PH domain
 UTERU3007640// NSF attachment protein
 UTERU3008660// TPR Domain// TPR Domain
 20 UTERU3009490// Bromodomain
 UTERU3009871// Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// TPR Domain// Ank repeat// Ank repeat
 UTERU3009979// EGF-like domain// EGF-like domain// EGF-like
 domain// Trypsin Inhibitor like cysteine rich domain// EGF-like
 25 domain// Laminin G domain// Thrombospondin N-terminal -like
 domains// Laminin G domain
 UTERU3015500// Leucine rich repeat N-terminal domain// Leucine
 Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
 30 Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine
 Rich Repeat

Deduced amino acid sequences of following 250 clones were also detected to have functional domains with Pfam.

- 3NB692004724// KRAB box// Integrase core domain
 35 ADRGL2000042// Nucleosome assembly protein (NAP)
 BLADE2000579// Src homology domain 2// Peptidase family C9

BLADE2006830// HSF-type DNA-binding domain
 BRACE2003609// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// PHD-finger//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 5 C2H2 type// Transcription factor S-II (TFIIS)// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type
 BRACE2029396// Somatotropin hormone family
 10 BRACE2037299// Integrase core domain
 BRACE2039823// CDP-alcohol phosphatidyltransferase
 BRACE3001058// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 15 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Putative zinc finger in N-recognin//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Transcription
 factor S-II (TFIIS)// Src homology domain 2// Zinc finger, C2H2
 20 type// Zinc finger, C2H2 type// Src homology domain 2// Zinc
 finger, C2H2 type
 BRACE3001113// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 25 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Putative zinc finger in N-recognin//
 30 Zinc finger, C2H2 type// PHD-finger// Zinc finger, C2H2 type
 BRACE3003026// Phorbol esters/diacylglycerol binding domain (C1
 domain)// Zinc finger, C3HC4 type (RING finger)// PHD-finger
 BRACE3003053// Influenza RNA-dependent RNA polymerase subunit//
 Reprolysin family propeptide// Leptin
 35 BRACE3005107// Small cytokines (intecrine/chemokine),
 interleukin-8 like

BRACE3009127// PH domain// Oxysterol-binding protein
 BRACE3010076// KH domain// KH domain// Domain of unknown
 function// KH domain// KH domain// KH domain// Small cytokines
 (intecrine/chemokine), interleukin-8 like// Fanconi anaemia
 5 group C protein// KH domain// KH domain
 BRALZ2017844// Homeobox domain
 BRAMY2019111// Ion transport protein
 BRAMY2035070// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 PHD-finger// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 10 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 15 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type
 BRAMY2035449// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 20 C2H2 type// Zinc finger, C2H2 type
 BRAMY2035718// HMG (high mobility group) box// CTF/NF-I family
 BRAMY2038516// Thioredoxin// Thioredoxin
 BRAMY2039341// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Transcription
 25 factor S-II (TFIIS)// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 BRAMY2040159// Chalcone and stilbene synthases// Adaptor
 complexes medium subunit family// PH domain// Putative GTP-ase
 activating protein for Arf// Ank repeat// Ank repeat
 30 BRAMY2045471// DHHC zinc finger domain
 BRAMY3004800// Synaptobrevin// RhoGEF domain
 BRAWH1000369// DNA polymerase family A
 BRAWH2006207// KRAB box
 BRAWH2006395// Immunoglobulin domain// Thrombospondin type 1
 35 domain
 BRAWH2010552// Cyclin

BRAWH3007441// Zinc finger C-x8-C-x5-C-x3-H type (and similar)
 BRAWH3009017// WD domain, G-beta repeat// WD domain, G-beta
 repeat
 BRCAN2002473// Tropomyosins// Tropomyosins// UvrB/uvrC motif//
 5 Tropomyosins
 BRCAN2002854// SAP domain
 BRCAN2003070// Ubiquitin-conjugating enzyme
 BRCAN2014229// SRP54-type protein// SRP54-type protein//
 Shikimate kinase// Adenylate kinase// ATPases associated with
 10 various cellular activities (AAA)
 BRCOC2019841// Purple acid phosphatase
 BRHIP2005724// alpha/beta hydrolase fold
 BRHIP2006617// TPR Domain// TPR Domain
 BRHIP2008389// Adenylate and Guanylate cyclase catalytic domain
 15 BRHIP2012360// XPG N-terminal domain// XPG I-region
 BRHIP2017553// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 20 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 BRHIP2026877// Eukaryotic protein kinase domain
 BRHIP3000017// Integrins, beta chain// Uncharacterized protein
 25 family UPF0004
 BRHIP3000240// Aldo/keto reductase family// Aldo/keto reductase
 family
 BRHIP3008314// Sir2 family
 BRHIP3026052// Protein phosphatase 2A regulatory B subunit (B56
 30 family)
 BRSTN2013354// Ets-domain
 BRTHA2002133// Reverse transcriptase (RNA-dependent DNA
 polymerase)
 BRTHA2002702// RNase H
 35 BRTHA2007060// Transposase
 BRTHA2010033// AP endonuclease family 1

BRTHA2013426// AP endonuclease family 1
 BRTHA2013610// Deoxynucleoside kinase
 BRTHA2016318// KE2 family protein
 BRTHA2017364// DEAD/DEAH box helicase// Helicases conserved C-
 5 terminal domain
 BRTHA2017972// Dwarfin
 BRTHA2018011// Trypsin
 BRTHA3000296// Peptidase family M20/M25/M40
 CERVX2002013// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 10 CTONG1000113// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Integrase core domain// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 15 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type
 CTONG2003348// bZIP transcription factor// Importin beta binding
 domain
 20 CTONG2004000// Acyl-CoA dehydrogenase
 CTONG2015596// Myb-like DNA-binding domain
 CTONG2016942// Trypsin
 CTONG2019822// Hepatitis C virus core protein
 CTONG2020374// MORN motif// MORN motif// MORN motif// MORN
 25 motif// MORN motif// MORN motif// MORN motif// Penicillin
 amidase// Bacterial regulatory proteins, lacI family// Vacuolar
 sorting protein 9 (VPS9) domain
 CTONG2020378// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 30 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type
 CTONG2020411// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 35 CTONG2024031// MORN motif// MORN motif// MORN motif// MORN
 motif// MORN motif// MORN motif// MORN motif// Penicillin

amidase// Bacterial regulatory proteins, lacI family
 CTONG2028758// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Homeobox domain// Zinc finger, C2H2 type// Homeobox domain//
 Zinc finger, C2H2 type

5 CTONG3001501// Zinc finger, C2H2 type
 CTONG3002552// AP endonuclease family 1
 CTONG3003598// AP endonuclease family 1
 CTONG3004550// Phosphoribosyl-ATP pyrophosphohydrolase// Death
 domain

10 CTONG3004726// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 15 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Transcription factor S-II (TFIIS)//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type

20 DFNES2011192// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type

FCBBF1000509// SAM domain (Sterile alpha motif)// SURF4 family//

25 SAM domain (Sterile alpha motif)// DNA photolyase
 FCBBF3010361// Fork head domain
 FCBBF3027854// Zinc finger, C2H2 type
 FEBRA2001990// RasGEF domain
 FEBRA2006519// Thrombospondin type 1 domain// Thrombospondin
 30 type 1 domain

FEBRA2008692// PQQ enzyme repeat// wnt family of developmental
 signaling proteins// Eukaryotic protein kinase domain// Ribulose
 biphosphate carboxylase, large chain

FEBRA2014122// Zinc finger, C2H2 type// Zinc finger, C2H2 type//

35 Zinc finger, C2H2 type// Sodium// Zinc finger, C2H2 type
 FEBRA2027609// Zinc finger, C2H2 type// Rubredoxin// Zinc finger,

C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Putative zinc finger in N-
 recognin// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 5 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 FEBRA2028256// EGF-like domain// EGF-like domain// EGF-like
 10 domain// EGF-like domain// EGF-like domain// TB domain// EGF-
 like domain// EGF-like domain// EGF-like domain// EGF-like
 domain// EB module// Squash family of serine protease
 inhibitors// EGF-like domain// EGF-like domain
 FEBRA2028516// GRIP domain
 15 HCASM2002754// Sterol desaturase
 HCASM2003018// PHD-finger// Zinc finger// Zinc finger// Zinc
 finger// Zinc finger// Zinc finger// Zinc finger// Zinc finger//
 Zinc finger// Zinc finger// Zinc finger// Zinc finger// Zinc
 finger
 20 HCASM2003099// Histone deacetylase family// Zn-finger in
 ubiquitin-hydrolases and other proteins
 HCASM2003357// Coproporphyrinogen III oxidase
 HCASM2008536// XRCC1 N terminal domain
 HCASM2009424// RFX DNA-binding domain
 25 HCHON2000508// PH domain// bZIP transcription factor// bZIP
 transcription factor// Outer membrane efflux protein// Troponin
 HCHON2000743// SCAN domain
 HCHON2004858// SCAN domain// Myb-like DNA-binding domain// Zinc
 finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 30 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Transcription factor S-II
 (TFIIS)// Zinc finger, C2H2 type
 HEART2009680// Bacteriorhodopsin// 7 transmembrane receptor
 35 (Secretin family)
 HLUNG2015418// Cadherin domain// Cadherin domain// Cadherin

domain// Cadherin domain// PQQ enzyme repeat
 HLUNG2015548// IMP dehydrogenase / GMP reductase N terminus//
 CBS domain// CBS domain// Dihydroorotate dehydrogenase//
 Histidine biosynthesis protein// FMN-dependent dehydrogenase//
 5 Conserved region in glutamate synthase// IMP dehydrogenase / GMP
 reductase C terminus
 HSYRA2005628// KRAB box// Zinc finger, C2H2 type// PHD-finger//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 10 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 IMR322007078// UBA domain
 IMR322008651// Helix-hairpin-helix motif.
 IMR322013396// Transmembrane region cyclic Nucleotide Gated
 15 Channel// Cyclic nucleotide-binding domain
 IMR322013731// ATPases associated with various cellular
 activities (AAA)// Bromodomain
 LIVER2000247// Sodium
 MESAN2001770// Regulatory subunit of type II PKA R-subunit//
 20 eIF4-gamma/eIF5/eIF2-epsilon
 MESAN2005303// Ank repeat//HECT-domain (ubiquitin-transferase).
 MESAN2014412// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 25 MESAN2015501// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Transcription factor S-II (TFIIS)// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 30 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 35 NT2RI2005772// Guanylate kinase//I/LWEQ domain//PDZ domain (Also
 known as DHR or GLGF).//SH3 domain

- NT2RI2008952// FYVE zinc finger//PHD-finger//Plant PEC family
metallothionein//RNA polymerases M/15 Kd subunits//TRAF-type
zinc finger//Transcription factor S-II (TFIIS)//Zinc finger,
C2H2 type
- 5 NT2RI2009583// 7 transmembrane receptor (metabotropic glutamate
family)//GPR1/FUN34/yaaH family
- NT2RI2018448// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
Zinc finger, C2H2 type
- NT2RI2027157// Reeler domain// HSF-type DNA-binding domain
- 10 NT2RI3000174// SNF2 and others N-terminal domain// Small
cytokines (intecrine/chemokine), interleukin-8 like// Helicases
conserved C-terminal domain// Zn-finger in Ran binding protein
and others.// HNH endonuclease
- NT2RI3001132// Zinc finger, C3HC4 type (RING finger)// PHD-
- 15 finger
- NT2RI3002557// Ribosomal protein L36// bZIP transcription factor
- NT2RI3007167// Cold-shock' DNA-binding domain// Zinc knuckle//
Zinc knuckle
- NT2RI3007443// Alpha-2-macroglobulin family// Eukaryotic protein
- 20 kinase domain// REV protein (anti-repression trans-activator
protein)
- NT2RP7008435// Anenome neurotoxin//CUB domain//Low-density
lipoprotein receptor domain class A//Trypsin
- NT2RP8000521// Small cytokines (intecrine/chemokine),
- 25 interleukin-8 like
- NTONG2008093// Adenylylsulfate kinase// 6-phosphofructo-2-kinase
- OCBBF2003327// Thrombospondin type 1 domain// Thrombospondin
type 1 domain// Thrombospondin type 1 domain
- OCBBF2005433// SH3 domain// WW domain// PH domain// RhoGAP
- 30 domain
- OCBBF2006987// Collagen triple helix repeat (20 copies)//
Eukaryotic DNA topoisomerase I
- OCBBF2008144// KRAB box// Zinc finger, C2H2 type// Zinc finger,
C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
- 35 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//

Zinc finger, C2H2 type// Zinc finger, C2H2 type// Transcription
 factor S-II (TFIIS)// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 finger, C2H2 type// PHD-finger// Zinc finger, C2H2 type// Zinc
 5 finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 finger, C2H2 type
 OCBBF2009583// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 10 Zinc finger, C2H2 type
 OCBBF2011669// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 15 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Putative zinc finger in N-recognin//
 Zinc finger, C2H2 type// PHD-finger// Zinc finger, C2H2 type
 20 OCBBF2019684// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Transcription factor S-II (TFIIS)// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// PHD-finger// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 25 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 OCBBF2020048// Protein of unknown function DUF98// Zinc finger,
 C3HC4 type (RING finger)
 OCBBF2024284// Hemagglutinin// PHD-finger// Zinc finger// Zinc
 30 finger// Zinc finger// Zinc finger// Zinc finger// Zinc finger//
 Zinc finger// Zinc finger// Zinc finger// Zinc finger// Zinc
 finger// Zinc finger// WD domain, G-beta repeat// WD domain, G-
 beta repeat// WD domain, G-beta repeat
 OCBBF2030116// Hrl repeat motif// Transthyretin precursor
 35 (formerly prealbumin)// Tau and MAP proteins, tubulin-binding//
 Transient receptor// Syntaxin

- OCBBF2032274// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Transcription factor S-II (TFIIS)//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
- 5 OCBBF2034637// Prokaryotic DNA topoisomerase// Protein of
 unknown function// Eukaryotic protein kinase domain
 OCBBF3000167// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
- 10 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type
 OCBBF3002654// SH3 domain// Immunoglobulin domain// Eukaryotic
 protein kinase domain
- 15 OCBBF3003761// KH domain// KH domain// Zinc finger, C3HC4 type
 (RING finger)
 PERIC2007068// ELM2 domain// Myb-like DNA-binding domain//
 Eukaryotic initiation factor 1A// Myb-like DNA-binding domain
 PLACE7000333// AP endonuclease family 1
- 20 PLACE7000502// Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Ank repeat// Peptidase family C9
 PROST2000452// Trypsin
 PROST2009320// LIM domain containing proteins// LIM domain
 containing proteins
- 25 PUAEN2006335// Formin Homology 2 Domain
 SKMUS2003194// SAP domain
 SPLEN2016135// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Phorbol esters/diacylglycerol binding domain (C1 domain)// Zinc
 finger, C2H2 type
- 30 SPLEN2016781// Transcription factor S-II (TFIIS)// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 SPLEN2030847// Kinesin motor domain// Kinesin motor domain// GGL
 domain
 SPLEN2036702// REJ domain// Phorbol esters/diacylglycerol
 binding domain (C1 domain)// PHD-finger
- 35 SPLEN2039311// dUTPase

SPLEN2039379// Transthyretin precursor (formerly prealbumin)
 STOMA2003158// Deoxyribonuclease I (DNase I)
 SYNOV1000256// Leucine Rich Repeat// BAH domain// Leucine Rich
 Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 5 SYNOV2006620// Nuclear transition protein 2
 SYNOV2013637// Chalcone and stilbene synthases
 SYNOV2021953// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type
 SYNOV4002744// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 10 Zinc finger, C2H2 type// Zinc finger, C2H2 type
 SYNOV4003981// Somatomedin B domain// WAP-type (Whey Acidic
 Protein) 'four-disulfide core'// Hemopexin// Hemopexin
 SYNOV4005889// Apolipoprotein A1/A4/E family
 TESOP2000390// Eukaryotic protein kinase domain
 15 TESOP2001796// Zinc finger, C3HC4 type (RING finger)// PHD-
 finger// IBR domain
 TESOP2005199// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Transcription factor S-II
 (TFIIS)// Zinc finger, C2H2 type// Zinc finger, C2H2 type// PHD-
 20 finger// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 finger, C2H2 type// Zinc finger, C2H2 type// TRAF-type zinc
 finger// Zinc finger, C2H2 type
 TESOP2006398// Zinc finger, C2H2 type
 TESOP2006865// KRAB box
 25 TESTI1000266// Integrase core domain
 TESTI2008901// Transcription factor WhiB
 TESTI2015626// Phosphoribosyl transferase domain
 TESTI2025924// Eukaryotic protein kinase domain
 TESTI2026647// DEAD/DEAH box helicase// Helicases conserved C-
 30 terminal domain
 TESTI2029252// Ion transport protein// Polysaccharide
 biosynthesis protein
 TESTI2034251// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Transcription
 35 factor S-II (TFIIS)// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc

finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 5 TESTI2035981// RNA polymerase alpha subunit
 TESTI2036288// Aldo/keto reductase family
 TESTI2037830// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 TESTI2039060// D-ala D-ala ligase// Glycosyl hydrolases family
 31
 10 TESTI2049956// WD domain, G-beta repeat// WD domain, G-beta
 repeat// PQQ enzyme repeat// WD domain, G-beta repeat// WD
 domain, G-beta repeat// WD domain, G-beta repeat// WD domain, G-
 beta repeat
 TESTI2050780// Kazal-type serine protease inhibitor domain
 15 TESTI4000137// Domain of unknown function
 TESTI4000155// Viral RNA dependent RNA polymerase
 TESTI4000183// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 TESTI4000214// Zinc finger, C3HC4 type (RING finger)// DENN
 20 (AEX-3) domain
 TESTI4000319// RasGEF domain
 TESTI4001984// Retroviral aspartyl protease// G-patch domain
 TESTI4005317// Bacterial flagellin C-terminus// Phosphotyrosine
 interaction domain (PTB/PID)
 25 TESTI4006473// Sigma-54 transcription factors// DEAD/DEAH box
 helicase// DEAD/DEAH box helicase// Ank repeat// Ank repeat//
 Helicases conserved C-terminal domain
 TESTI4008058// Zn-finger in Ran binding protein and others.//
 Zinc finger, CCHC class
 30 TESTI4008302// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// PHD-finger//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 TESTI4010382// Luteovirus (ORF3) RNA-directed RNA-polymerase//
 35 Ezrin/radixin/moesin family
 TESTI4011072// Tudor domain// Tudor domain// Staphylococcal

nuclease homologues// Tudor domain// Tudor domain
 TESTI4013365// MYND finger
 TESTI4013894// Synaptophysin / synaptoporin
 TESTI4014801// Zinc finger, C2H2 type// N2,N2-dimethylguanosine
 5 tRNA methyltransferase
 TESTI4015442// Homeobox domain// Zinc finger, C2H2 type//
 Homeobox domain// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type
 TESTI4017714// Transcriptional regulatory protein, C terminal//
 10 Prolyl oligopeptidase family
 TESTI4021482// Eukaryotic protein kinase domain
 TESTI4024387// GDP dissociation inhibitor
 TESTI4025268// WD domain, G-beta repeat// WD domain, G-beta
 repeat
 15 TESTI4025494// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// TRAF-type zinc finger// Zinc finger,
 20 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type
 TESTI4025547// Type II intron maturase// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 TESTI4025865// Lipoate-protein ligase B// KE2 family protein
 25 TESTI4026207// Kinesin motor domain// DNA gyrase/topoisomerase
 IV, subunit A
 TESTI4028938// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 30 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// DM DNA binding domain// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type
 TESTI4028958// DNA gyrase/topoisomerase IV, subunit A//
 Apolipoprotein A1/A4/E family
 35 TESTI4029348// Trans-activation protein X
 TESTI4029528// RanBP1 domain.

- TESTI4029690// Leucine Rich Repeat// Leucine Rich Repeat//
 Leucine Rich Repeat// Cytochrome c oxidase subunit VIa// IQ
 calmodulin-binding motif
- TESTI4031745// Alpha-2-macroglobulin family// Eukaryotic protein
 5 kinase domain// REV protein (anti-repression trans-activator
 protein)
- TESTI4032090// RNase H// Integrase Zinc binding domain//
 Integrase core domain
- TESTI4032112// Syndecan domain
- 10 TESTI4038721// Squash family of serine protease inhibitors
- TESTI4041086// Transmembrane amino acid transporter protein
- TESTI4046240// Sir2 family
- THYMU2004139// Eukaryotic protein kinase domain
- THYMU2004284// Repeat in ubiquitin-activating (UBA) proteins
- 15 THYMU2006001// Zinc finger, C3HC4 type (RING finger)// CONSTANS
 family zinc finger// B-box zinc finger.// SPRY domain
- THYMU2028739// SCAN domain// KRAB box// Myb-like DNA-binding
 domain
- THYMU2031139// Reprolysin (M12B) family zinc metalloprotease//
- 20 Thrombospondin type 1 domain// EB module// Plant PEC family
 metallothionein// A20-like zinc finger
- THYMU2031249// C-type lysozyme/alpha-lactalbumin family//
 Eukaryotic protein kinase domain
- THYMU2035078// Domain of unknown function DUF27
- 25 THYMU2035710// ATP1G1/PLM/MAT8 family
- THYMU2040925// CDP-alcohol phosphatidyltransferase
- THYMU3000269// FAD binding domain
- THYMU3000360// Integrase core domain
- THYMU3001428// Zinc finger, C3HC4 type (RING finger)// PHD-
 30 finger
- TKIDN2012771// DNA polymerase (viral) C-terminal domain// MttB
 family UPF0032
- TLIVE2001684// Alpha-2-macroglobulin family// Alpha-2-
 macroglobulin family
- 35 TLIVE2002046// HMG (high mobility group) box// Uroporphyrinogen
 decarboxylase (URO-D)// Delta-aminolevulinic acid dehydratase

TLIVE2007607// DNA polymerase (viral) C-terminal domain//
 Cytochrome P450
 TRACH1000212// TSC-22/dip/bun family
 TRACH2000862// Guanylate-binding protein
 5 TRACH2007483// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type
 TRACH2019672// CRAL/TRIO domain.
 TRACH2024408// Death domain
 10 TRACH2024559// IQ calmodulin-binding motif// IQ calmodulin-
 binding motif
 TRACH3000134// KRAB box// Zinc finger, C2H2 type// Zinc finger,
 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 15 C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 PHD-finger// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// DnaJ central domain (4 repeats)// Zinc
 finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger, C2H2
 type// Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc
 20 finger, C2H2 type// Zinc finger, C2H2 type
 TRACH3000420// ABC transporter// Papain family cysteine
 protease// ABC transporter
 TRACH3002561// 'Cold-shock' DNA-binding domain
 TRACH3003832// PHD-finger
 25 TRACH3007866// Transcriptional regulatory protein, C terminal//
 PAC motif// Dipeptidyl peptidase IV (DPP IV) N-terminal region//
 Prolyl oligopeptidase family
 UTERU2004299// ATP P2X receptor
 UTERU2008040// Phorbol esters/diacylglycerol binding domain (C1
 30 domain)// SH3 domain
 UTERU2019534// Cysteine rich repeat// Cysteine rich repeat//
 Carboxylesterases
 UTERU2028734// C2 domain// C2 domain
 UTERU2032279// Serpins (serine protease inhibitors)
 35 UTERU2033577// KRAB box
 UTERU3000402// WD domain, G-beta repeat// WD domain, G-beta

repeat
 UTERU3000738// Eukaryotic protein kinase domain
 UTERU3001053// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 Zinc finger, C2H2 type// Zinc finger, C2H2 type// Zinc finger,
 5 C2H2 type// Zinc finger, C2H2 type// Transcription factor S-II
 (TFIIS)// Zinc finger, C2H2 type// Zinc finger, C2H2 type
 UTERU3014791// LIM domain containing proteins// PHD-finger// LIM
 domain containing proteins
 UTERU3015412// WD domain, G-beta repeat// WD domain, G-beta
 10 repeat// WD domain, G-beta repeat// Keratin, high sulfur B2
 protein
 UTERU3017176// K-box region// bZIP transcription factor
 TESTI4038779// K⁺ channel tetramerisation domain// BTB/POZ
 domain// Zinc finger, C2H2 type// Zinc finger, C2H2 type//
 15 Rubredoxin// PHD-finger// Zinc finger, C2H2 type

EXAMPLE 6

Functional categorization based on homology search of the full-length nucleotide sequences and deduced amino acid sequences

20 The functional prediction and categorization of the
 proteins encoded by the clones were carried out based on the
 result of homology search of the databases of GenBank, Swiss-
 Prot, UniGene, nr, and RefSeq (see the Homology Search Result
 Data) for the full-length nucleotide sequences and deduced amino
 25 acid sequences.

A clone predicted to belong to the category of secretory
 protein/membrane protein means a clone having hit data with some
 annotation, such as growth factor, cytokine, hormone, signal,
 transmembrane, membrane, extracellular matrix, receptor, G-
 30 protein coupled receptor, ionic channel, voltage-gated channel,
 calcium channel, cell adhesion, collagen, and connective tissue,
 suggesting that it is a secretory or membrane protein, or means
 a clone in which the presence of nucleotide sequence encoding a
 signal sequence or transmembrane domain was suggested by the
 35 results of PSORT and SOSUI analyses for deduced ORF.

A clone predicted to belong to the category of glycoprotein-related protein means a clone having hit data with some annotation, such as glycoprotein, suggesting that the clone encodes a glycoprotein-related protein.

5 A clone predicted to belong to the category of signal transduction-related protein means a clone having hit data with some annotation, such as serine/threonine-protein kinase, tyrosine-protein kinase, SH3 domain, and SH2 domain, suggesting that the clone encodes a signal transduction-related protein.

10 A clone predicted to belong to the category of transcription-related protein means a clone having hit data with some annotation, such as transcription regulation, zinc finger, and homeobox, suggesting that the clone encodes a transcription-related protein.

15 A clone predicted to belong to the category of disease-related protein means a clone having hit data with some annotation, such as disease mutation and syndrome, suggesting that the clone encodes a disease-related protein, or means a clone whose full-length nucleotide sequence has hit data for
20 Swiss-Prot, GenBank, or UniGene, where the hit data corresponds to genes or proteins which have been deposited in the Online Mendelian Inheritance in Man (OMIM) (<http://www.ncbi.nlm.nih.gov/Omim/>), which is the human gene and disease database.

25 A clone predicted to belong to the category of enzyme and/or metabolism-related protein means a clone having hit data with some annotation, such as metabolism, oxidoreductase, and E. C. No. (Enzyme commission number), suggesting that the clone encodes an enzyme and/or metabolism-related protein.

30 A clone predicted to belong to the category of cell division and/or cell proliferation-related protein means a clone having hit data with some annotation, such as cell division, cell cycle, mitosis, chromosomal protein, cell growth, and apoptosis, suggesting that the clone encodes a cell division
35 and/or cell proliferation-related protein.

A clone predicted to belong to the category of cytoskeleton-related protein means a clone having hit data with some annotation, such as structural protein, cytoskeleton, actin-binding, and microtubules, suggesting that the clone
5 encodes a cytoskeleton-related protein.

A clone which is predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein means a clone having hit data with some annotation, such as nuclear protein, RNA splicing, RNA processing, RNA helicase, and
10 polyadenylation, suggesting that the clone encodes a nuclear protein and/or RNA synthesis-related protein.

A clone predicted to belong to the category of protein synthesis and/or transport-related protein means a clone having hit data with some annotation, such as translation regulation,
15 protein biosynthesis, amino-acid biosynthesis, ribosomal protein, protein transport, and signal recognition particle, suggesting that the clone encodes a protein synthesis and/or transport-related protein.

A clone predicted to belong to the category of cellular defense-related protein means a clone having hit data with some annotation, such as heat shock, DNA repair, and DNA damage,
20 suggesting that the clone encodes a cellular defense-related protein.

A clone predicted to belong to the category of development and/or differentiation-related proteins means a clone having hit data with some annotation, such as developmental protein,
25 suggesting that the clone encodes a development and/or differentiation-related protein.

A clone predicted to belong to the category of DNA-binding and/or RNA-binding protein means a clone having hit data with some annotation, such as DNA-binding, RNA-binding, etc.
30

A clone predicted to belong to the category of ATP-binding and/or GTP-binding protein means a clone having hit data with some annotation, such as ATP-binding, GTP-binding, etc.

35 In this functional categorization, when a single clone corresponded to multiple categories of those shown above, the

clone was assigned to the multiple categories. However, the function of a protein is not restricted to the functional categories in this classification, and there is the possibility that other functions are newly assigned to the protein.

- 5 The clones predicted to belong to the category of secretory protein and/or membrane protein are the following 659 clones.
- ACTVT2000380, ADIPS2000088, ADRGL2000172, ADRGL2003329, ADRGL2009146, ASTRO2014923, ASTRO3000301, BLADE1000176, BLADE2002073, BLADE2002947, BLADE2004462, BLADE2004670,
- 10 BLADE2005036, BLADE2008539, BNGH42003570, BRACE1000186, BRACE2005457, BRACE2014306, BRACE2016981, BRACE2029112, BRACE2030884, BRACE2031527, BRACE2031531, BRACE2031899, BRACE2032385, BRACE2036005, BRACE2039249, BRACE2039327, BRACE2040138, BRACE2041200, BRACE2043142, BRACE2043665,
- 15 BRACE2046295, BRACE3000697, BRACE3001391, BRACE3002298, BRACE3003004, BRACE3003595, BRACE3004058, BRACE3004113, BRACE3004772, BRACE3004843, BRACE3006462, BRACE3008137, BRACE3008384, BRACE3009574, BRACE3009708, BRACE3010397, BRACE3011271, BRACE3011505, BRACE3013740, BRACE3014005,
- 20 BRACE3014068, BRACE3014807, BRACE3016884, BRACE3018963, BRACE3019084, BRACE3020286, BRACE3020594, BRACE3024662, BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026735, BRACE3027326, BRACE3031838, BRACE3040856, BRALZ2016085, BRAMY2001473, BRAMY2004771, BRAMY2005052, BRAMY2017528,
- 25 BRAMY2019300, BRAMY2019963, BRAMY2021498, BRAMY2028856, BRAMY2033003, BRAMY2033116, BRAMY2033594, BRAMY2036396, BRAMY2039872, BRAMY2040592, BRAMY2041542, BRAMY2045036, BRAMY2047420, BRAMY2047751, BRAMY2047765, BRAMY3002312, BRAMY3004224, BRAMY3004919, BRAMY3007206, BRAMY3007609,
- 30 BRAMY3008505, BRAMY4000095, BRASW1000125, BRAWH1000127, BRAWH2002560, BRAWH2002761, BRAWH2007658, BRAWH2014414, BRAWH2014954, BRAWH2016221, BRAWH2016439, BRAWH2016702, BRAWH3000078, BRAWH3000314, BRAWH3001475, BRAWH3001891, BRAWH3002600, BRAWH3003555, BRAWH3003727, BRAWH3003992,
- 35 BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005912, BRAWH3006548, BRAWH3007221, BRAWH3007506, BRAWH3007592,

BRAWH3008634, BRCAN2002948, BRCAN2006063, BRCAN2009203,
 BRCAN2010376, BRCAN2012355, BRCAN2012481, BRCAN2013655,
 BRCAN2014143, BRCAN2016619, BRCAN2024451, BRCOC2007034,
 BRCOC2019934, BRHIP2000691, BRHIP2001805, BRHIP2002172,
 5 BRHIP2004814, BRHIP2004883, BRHIP2005236, BRHIP2005752,
 BRHIP2009414, BRHIP2013699, BRHIP2026288, BRHIP3000526,
 BRHIP3007483, BRHIP3007586, BRHIP3008598, BRHIP3009448,
 BRHIP3015751, BRHIP3024118, BRHIP3026097, BRSSN2003086,
 BRSSN2004496, BRSSN2008549, BRSSN2011738, BRSSN2014424,
 10 BRSSN2018925, BRSTN2000872, BRSTN2003835, BRSTN2007000,
 BRSTN2010363, BRSTN2012380, BRSTN2015015, BRSTN2016470,
 BRSTN2016678, BRSTN2017110, BRTHA2002376, BRTHA2002493,
 BRTHA2002608, BRTHA2002808, BRTHA2003110, BRTHA2003461,
 BRTHA2005579, BRTHA2006075, BRTHA2008527, BRTHA2011194,
 15 BRTHA2012980, BRTHA2013460, BRTHA2015696, BRTHA2015878,
 BRTHA2016215, BRTHA2016496, BRTHA2017985, BRTHA2018344,
 BRTHA2018624, BRTHA3000633, BRTHA3002427, BRTHA3003474,
 BRTHA3007148, BRTHA3008386, BRTHA3008778, BRTHA3009037,
 BRTHA3009090, BRTHA3009291, BRTHA3016845, BRTHA3017047,
 20 BRTHA3017589, BRTHA3017848, BRTHA3018656, CERVX2002006,
 COLON2000568, COLON2002443, COLON2004478, COLON2005126,
 COLON2005772, CTONG1000302, CTONG1000341, CTONG1000488,
 CTONG1000508, CTONG2000042, CTONG2004062, CTONG2008233,
 CTONG2009423, CTONG2009531, CTONG2010803, CTONG2013178,
 25 CTONG2019652, CTONG2019788, CTONG2020127, CTONG2020522,
 CTONG2020638, CTONG2022601, CTONG2023512, CTONG2024749,
 CTONG2025496, CTONG2026920, CTONG2027327, CTONG2028124,
 CTONG2028687, CTONG3000707, CTONG3001370, CTONG3001560,
 CTONG3002020, CTONG3003179, CTONG3003483, CTONG3003737,
 30 CTONG3005648, CTONG3008252, CTONG3008258, CTONG3008496,
 CTONG3008566, CTONG3008951, CTONG3009227, CTONG3009239,
 CTONG3009328, CTONG3009385, D3OST2002182, D3OST2002648,
 DFNES1000107, DFNES2000146, DFNES2005266, DFNES2010502,
 FCBBF2001183, FCBBF2007510, FCBBF3003435, FCBBF3004502,
 35 FCBBF3009888, FCBBF3012170, FCBBF3021576, FCBBF3023895,
 FCBBF4000076, FEBRA1000030, FEBRA2007708, FEBRA2008311,

FEBRA2008468, FEBRA2020668, FEBRA2025427, FEBRA2027082,
 HCASM2002502, HCASM2003212, HCASM2007047, HCHON2000212,
 HCHON2001084, HCHON2001548, HCHON2001577, HCHON2001712,
 HCHON2002676, HCHON2004007, HCHON2004776, HCHON2005921,
 5 HEART1000010, HEART2001680, HEART2010492, HLUNG2000014,
 HLUNG2003872, HLUNG2010464, HLUNG2015617, HLUNG2017350,
 HSYRA2005496, HSYRA2006873, HSYRA2008714, HSYRA2009102,
 IMR322002110, IMR322006222, KIDNE1000064, KIDNE2000832,
 KIDNE2000846, KIDNE2006580, KIDNE2010264, KIDNE2011635,
 10 KIDNE2012945, KIDNE2013095, LIVER2007415, LYMPB2000083,
 MESAN2001979, MESAN2012054, MESTC1000042, NHNPC2000606,
 NHNPC2001223, NOVAR2000136, NOVAR2001108, NT2RI2008724,
 NT2RI2009855, NT2RI2025909, NT2RI3001263, NT2RI3003095,
 NT2RI3003382, NT2RI3003409, NT2RI3005403, NT2RI3006171,
 15 NT2RI3006673, NT2RI3007065, NT2RI3007543, NT2RI3007978,
 NT2RP7000359, NT2RP7000466, NT2RP7004027, NT2RP7009030,
 NT2RP7014005, NTONG2000413, OCBBF2006151, OCBBF2006567,
 OCBBF2006764, OCBBF2007114, OCBBF2007428, OCBBF2009926,
 OCBBF2010140, OCBBF2017516, OCBBF2021788, OCBBF2024719,
 20 OCBBF2025458, OCBBF2030517, OCBBF2030574, OCBBF2031167,
 OCBBF2032590, OCBBF2033869, OCBBF2037598, OCBBF2038317,
 OCBBF3000483, OCBBF3003320, OCBBF3004314, PEBLM2000170,
 PEBLM2000338, PEBLM2002594, PEBLM2006113, PEBLM2007834,
 PERIC2001227, PERIC2003452, PERIC2003720, PERIC2004909,
 25 PERIC2005347, PERIC2006035, PERIC2007914, PLACE5000171,
 PLACE5000260, PLACE5000282, PLACE6012574, PLACE6019932,
 PLACE6020031, PLACE7000514, PLACE7001022, PROST1000184,
 PROST1000528, PROST1000559, PROST2003428, PROST2018090,
 PROST2018902, PROST2018922, PUAEN2002489, PUAEN2005588,
 30 PUAEN2006701, PUAEN2009174, PUAEN2009795, RECTM2000433,
 RECTM2001347, SKMUS2000757, SKNMC2002402, SMINT2002743,
 SMINT2009902, SMINT2011888, SMINT2015787, SPLEN2001599,
 SPLEN2009548, SPLEN2012889, SPLEN2015158, SPLEN2015267,
 SPLEN2015679, SPLEN2021701, SPLEN2023733, SPLEN2023791,
 35 SPLEN2025491, SPLEN2029522, SPLEN2029683, SPLEN2030335,
 SPLEN2030479, SPLEN2031125, SPLEN2031424, SPLEN2031547,

SPLEN2031724, SPLEN2031780, SPLEN2032813, SPLEN2033098,
SPLEN2034021, SPLEN2034781, SPLEN2036326, SPLEN2036821,
SPLEN2037722, SPLEN2038180, SPLEN2038345, SPLEN2038407,
SPLEN2040222, SPLEN2041304, SPLEN2042598, STOMA2004294,
5 STOMA2008546, SYNOV2005817, SYNOV2012326, SYNOV2014400,
SYNOV2016124, SYNOV4002883, SYNOV4003322, SYNOV4004184,
SYNOV4004741, SYNOV4004914, SYNOV4006256, SYNOV4007430,
SYNOV4007553, SYNOV4007671, SYNOV4008336, SYNOV4008440,
TBAES2001258, TCERX2000613, TESOP2001345, TESOP2001865,
10 TESOP2002273, TESOP2002539, TESOP2004114, TESOP2005485,
TESOP2005579, TESOP2006041, TESOP2007052, TESOP2007262,
TESOP2007636, TESTI1000257, TESTI1000348, TESTI2000644,
TESTI2002036, TESTI2002618, TESTI2002928, TESTI2003347,
TESTI2005610, TESTI2006648, TESTI2013382, TESTI2024567,
15 TESTI2027019, TESTI2034767, TESTI2034953, TESTI2034997,
TESTI2035997, TESTI2036684, TESTI2042450, TESTI2047071,
TESTI2048898, TESTI2051767, TESTI2052822, TESTI4000215,
TESTI4000724, TESTI4001100, TESTI4001527, TESTI4001561,
TESTI4001665, TESTI4001923, TESTI4002552, TESTI4002754,
20 TESTI4005805, TESTI4005961, TESTI4006053, TESTI4006137,
TESTI4007064, TESTI4007163, TESTI4007239, TESTI4007382,
TESTI4008050, TESTI4008401, TESTI4008429, TESTI4008797,
TESTI4009608, TESTI4012448, TESTI4013369, TESTI4013667,
TESTI4013830, TESTI4014392, TESTI4016238, TESTI4017575,
25 TESTI4017901, TESTI4018835, TESTI4019566, TESTI4020092,
TESTI4020102, TESTI4021478, TESTI4023722, TESTI4024420,
TESTI4024874, TESTI4024890, TESTI4025797, TESTI4026456,
TESTI4026785, TESTI4027821, TESTI4028062, TESTI4028429,
TESTI4028823, TESTI4028880, TESTI4029836, TESTI4030159,
30 TESTI4030505, TESTI4034172, TESTI4035065, TESTI4035649,
TESTI4037244, TESTI4041053, TESTI4042711, TESTI4046487,
TESTI4046819, THYMU2001053, THYMU2003632, THYMU2003760,
THYMU2005003, THYMU2005303, THYMU2005321, THYMU2007658,
THYMU2008725, THYMU2009425, THYMU2011548, THYMU2013386,
35 THYMU2014353, THYMU2019210, THYMU2023711, THYMU2027497,
THYMU2027695, THYMU2029676, THYMU2030068, THYMU2032035,

THYMU2032437, THYMU2032655, THYMU2033079, THYMU2033308,
 THYMU2033816, THYMU2034314, THYMU2035064, THYMU2036085,
 THYMU2036459, THYMU2037226, THYMU2037348, THYMU2038772,
 THYMU2038797, THYMU2039780, THYMU2040412, THYMU2041015,
 5 THYMU3000028, THYMU3000036, THYMU3004835, THYMU3005696,
 THYMU3006168, THYMU3006811, THYMU3007137, THYMU3007368,
 THYMU3007845, TKIDN2002424, TKIDN2002632, TKIDN2006525,
 TKIDN2009092, TKIDN2009889, TKIDN2014771, TKIDN2019116,
 TLIVE2000023, TLIVE2001828, TLIVE2001927, TLIVE2002336,
 10 TLIVE2002690, TLIVE2003381, TLIVE2004110, TLIVE2008229,
 TOVAR2001281, TRACH1000205, TRACH2001549, TRACH2001684,
 TRACH2006387, TRACH2007059, TRACH2007834, TRACH2008300,
 TRACH2020525, TRACH2021964, TRACH2022553, TRACH2025535,
 TRACH2025911, TRACH3000014, TRACH3002064, TRACH3002168,
 15 TRACH3002650, TRACH3004786, TRACH3005294, TRACH3005549,
 TRACH3006149, TRACH3007391, TRACH3008629, TRACH3035199,
 TRACH3035526, TRACH3036193, TSTOM2000442, TSTOM2000553,
 TUTER2000916, UTERU1000339, UTERU2004688, UTERU2004929,
 UTERU2006137, UTERU2006568, UTERU2007444, UTERU2017762,
 20 UTERU2020718, UTERU2022020, UTERU2025025, UTERU2025645,
 UTERU2025891, UTERU2026090, UTERU2026203, UTERU2027591,
 UTERU2029953, UTERU2031851, UTERU2035323, UTERU2035469,
 UTERU3000645, UTERU3000899, UTERU3001240, UTERU3001571,
 UTERU3001585, UTERU3001652, UTERU3001988, UTERU3002209,
 25 UTERU3002383, UTERU3002786, UTERU3003116, UTERU3003776,
 UTERU3006308, UTERU3008671, UTERU3009690, UTERU3009979,
 UTERU3011063, UTERU3015500, UTERU3016789

The following 82 clones are also predicted to belong to the category of secretory protein and/or membrane protein.

30 BLADE2006830, BRACE2002589, BRACE2009318, BRACE2011677,
 BRACE2029396, BRACE2039823, BRACE2039832, BRAMY2019111,
 BRAMY2038516, BRAMY2045471, BRAWH2006395, BRAWH2008993,
 BRCOC2019841, BRHIP2003272, BRHIP2005271, BRHIP2005724,
 BRHIP2008389, BRHIP2026877, BRHIP3000240, BRTHA2011321,
 35 BRTHA2018011, BRTHA2018443, BRTHA3008826, CTONG2015633,
 CTONG2016942, CTONG2019822, FEBRA2000790, FEBRA2006519,

FEBRA2028256, FEBRA2028516, HCASM2002754, HEART2009680,
 HLUNG2013350, HLUNG2015418, IMR322013396, LIVER2000247,
 NT2RI2009583, NT2RI2027157, NT2RP7008435, OCBBF2003327,
 OCBBF2030116, PLACE7000502, PROST2000452, PROST2019487,
 5 SPLEN2016932, SPLEN2037319, SYNOV2001660, SYNOV2013637,
 SYNOV4003981, SYNOV4005889, TBAES2000932, TESTI2015626,
 TESTI2029252, TESTI2032643, TESTI2039060, TESTI2050780,
 TESTI4000137, TESTI4000155, TESTI4006473, TESTI4011070,
 TESTI4013365, TESTI4013894, TESTI4014801, TESTI4032090,
 10 TESTI4041086, THYMU2004284, THYMU2030462, THYMU2033401,
 THYMU2034279, THYMU2035710, THYMU2040925, TKIDN2008778,
 TKIDN2012771, TKIDN2018926, TLIVE2007607, TRACH2019672,
 TRACH3000420, TRACH3003683, UTERU2011220, UTERU2021820,
 UTERU2032279, UTERU3015069

15 The clones predicted to belong to the category of
 glycoprotein-related protein are the following 115 clones.

ADIPS2000088, BNGH42003570, BRACE2005457, BRACE2014306,
 BRACE2029112, BRACE2039249, BRACE2046295, BRACE3001391,
 BRACE3011271, BRACE3016884, BRAMY2005052, BRAMY3004919,
 20 BRAMY4000095, BRAMY4000277, BRAWH1000127, BRAWH2007658,
 BRAWH2014414, BRAWH2016221, BRAWH3002600, BRCAN2006063,
 BRSSN2004496, BRTHA2008527, BRTHA2012980, BRTHA2016496,
 BRTHA3002427, BRTHA3017848, COLON2000568, COLON2004478,
 COLON2005772, CTONG1000341, CTONG2000042, CTONG2009423,
 25 CTONG2023512, CTONG2024749, CTONG2025496, CTONG3001370,
 CTONG3003737, D3OST2002648, DFNES2000146, DFNES2005266,
 FCBBF3012170, FEBRA1000030, FEBRA2008311, FEBRA2008468,
 HCHON2001712, HEART1000010, HEART2001680, HSYRA2005496,
 KIDNE2012945, LYMPB2000083, NESOP2001433, NOVAR2000136,
 30 NOVAR2001108, NT2RI3006171, NT2RI3006673, NT2RP7004027,
 OCBBF2033869, PLACE5000171, PROST1000184, PUAEN2009795,
 SMINT2010076, SMINT2011888, SMINT2015787, SPLEN2015267,
 SPLEN2021701, SPLEN2030335, SYNOV2005817, SYNOV2014400,
 SYNOV3000231, SYNOV3000302, TESOP2004114, TESOP2005485,
 35 TESTI1000257, TESTI2002036, TESTI2002618, TESTI2024567,
 TESTI2027019, TESTI4001527, TESTI4007163, TESTI4012406,

TESTI4013830, TESTI4020092, TESTI4023546, TESTI4028823,
 TESTI4028880, TESTI4046819, THYMU2005303, THYMU2008725,
 THYMU2009425, THYMU2011548, THYMU2019210, THYMU2023711,
 THYMU2027497, THYMU2027695, THYMU2038797, THYMU3004835,
 5 TLIVE2003381, TRACH2006387, TRACH2007059, TRACH2022425,
 TRACH2022553, TRACH2022649, TRACH3002168, TRACH3008629,
 TRACH3035526, TSTOM2000442, UTERU2008347, UTERU2025025,
 UTERU2035469, UTERU3000899, UTERU3001240, UTERU3003116,
 UTERU3006308, UTERU3008671, UTERU3015500

10 The following 15 clones are also predicted to belong to the
 category of glycoprotein-related protein.

BRAMY2019111, BRHIP2026877, BRTHA2018011, FEBRA2028256,
 HEART2009680, HLUNG2015418, NT2RI2009583, NT2RP7008435,
 OCBBF2003327, TESTI2032643, TESTI2039060, TESTI4011070,
 15 THYMU2035710, TRACH3003683, UTERU2032279

 The clones predicted to belong to the category of signal
 transduction-related protein are the following 80 clones.

BNGH42007788, BRACE2008594, BRACE2030341, BRACE2044286,
 BRACE3002508, BRACE3003595, BRACE3006872, BRACE3011421,
 20 BRACE3015027, BRACE3027326, BRAMY2036567, BRAMY2038904,
 BRAMY3000213, BRAMY3002803, BRAMY3005091, BRAMY3005932,
 BRAMY4000095, BRAMY4000229, BRCAN2003703, BRCAN2014602,
 BRCAN2016619, BRCAN2028355, BRHIP2000819, BRHIP3025161,
 BRSSN2004719, BRSTN2008418, BRTHA2002281, BRTHA2015406,
 25 CTONG2006798, CTONG3000084, CTONG3002412, D3OST3000169,
 FCBBF3007540, HCASM2001301, HCHON2006250, HCHON2008112,
 HLUNG2002465, KIDNE2001847, NESOP2001694, NT2NE2003252,
 NT2RI2005166, NT2RI3007757, NT2RI3008652, NT2RP7005529,
 NT2RP7009147, NT2RP7013795, NT2RP8000483, OCBBF2004826,
 30 OCBBF2007028, OCBBF2022351, OCBBF2030354, OCBBF2037547,
 PLACE6019385, PLACE7008431, PROST2016462, PROST2018511,
 PUAEN2009852, SPLEN2036932, SYNOV2021320, TESOP2000801,
 TESOP2001166, TESTI2005739, TESTI2026505, TESTI2050137,
 TESTI4011745, TESTI4012505, TESTI4018208, TESTI4028059,
 35 THYMU2007060, THYMU2031046, THYMU2032014, THYMU2039305,

THYMU3008436, TLIVE2001327, TRACH2009310, TRACH2025535,
TRACH3009455, UTERU2025025, UTERU2036089, UTERU3016789

The following 31 clones are also predicted to belong to the category of signal transduction-related protein.

5 BRAMY3004800, BRAWH3009017, BRHIP2026877, BRTHA2013610,
BRTHA2017972, BRTHA3003000, CTONG2020974, FEBRA2001990,
FEBRA2008692, NT2RI2005772, NT2RI3007443, NTONG2008093,
OCBBF2005433, OCBBF2024284, OCBBF2034637, OCBBF3002654,
SPLEN2036702, SPLEN2039379, TESOP2000390, TESTI2025924,
10 TESTI2049956, TESTI4000319, TESTI4019657, TESTI4021482,
TESTI4024387, TESTI4025268, TESTI4031745, THYMU2004139,
THYMU2031249, UTERU2008040, UTERU3000738

The clones predicted to belong to the category of transcription-related protein are the following 38 clones.

15 BRACE2030326, BRACE3001002, BRACE3045033, BRHIP3025161,
BRSSN2014299, BRTHA2014792, BRTHA3001721, CTONG2025516,
FEBRA2007544, FEBRA2007801, HEART1000074, IMR322000127,
IMR322000917, NT2NE2006531, NT2RI2006686, NT2RI3009158,
OCBBF2020838, OCBBF2036743, PEBLM2002887, SKNMC2007504,
20 SPLEN2012624, TESTI2026505, TESTI2040018, TESTI2044796,
TESTI2050987, TESTI4001176, TESTI4007810, TESTI4014175,
TESTI4017543, TESTI4026524, TESTI4036909, THYMU2006420,
THYMU2037233, THYMU3004866, TRACH3000558, TUTER2000425,
UTERU2035328, UTERU3009490

25 The following 64 clones are also predicted to belong to the category of transcription-related protein.

BRACE2003609, BRACE3001058, BRACE3001113, BRALZ2017844,
BRAMY2035070, BRAMY2035449, BRAMY2035718, BRAMY2039341,
BRAWH2006207, BRHIP2017553, CERVX2002013, CTONG1000113,
30 CTONG2003348, CTONG2008721, CTONG2020378, CTONG2020411,
CTONG2028758, CTONG3004726, DFNES2011192, FCBBF3010361,
FEBRA2014122, FEBRA2027609, HCASM2003018, HCHON2004858,
HSYRA2005628, MESAN2005303, MESAN2014412, MESAN2015501,
NT2RI2008952, NT2RI2018448, NT2RI3001132, OCBBF2008144,
35 OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2032274,
OCBBF3000167, SPLEN2004611, SPLEN2016135, SPLEN2016781,

SYNOV2021953, SYNOV4002744, TESOP2001796, TESOP2005199,
 TESOP2006398, TESOP2006865, TESTI2034251, TESTI4000183,
 TESTI4000214, TESTI4008302, TESTI4015442, TESTI4025494,
 TESTI4025547, TESTI4028938, TESTI4032112, THYMU2006001,
 5 THYMU2028739, TRACH2007483, TRACH3000134, TRACH3003832,
 TUTER2000057, UTERU2033577, UTERU3001053, TESTI4038779

The clones predicted to belong to the category of disease-related protein are the following 342 clones.

3NB692002806, ADIPS2000088, BLADE2005036, BRACE2005457,
 10 BRACE2008594, BRACE2014306, BRACE2016981, BRACE2018762,
 BRACE2035381, BRACE2038551, BRACE2039249, BRACE2045300,
 BRACE3000840, BRACE3001002, BRACE3001391, BRACE3001754,
 BRACE3002508, BRACE3003595, BRACE3004058, BRACE3004150,
 BRACE3004772, BRACE3008137, BRACE3008384, BRACE3009708,
 15 BRACE3010397, BRACE3011271, BRACE3011421, BRACE3014807,
 BRACE3015027, BRACE3015521, BRACE3018963, BRACE3020594,
 BRACE3027326, BRALZ2017359, BRAMY2005052, BRAMY2038904,
 BRAMY2047751, BRAMY3000213, BRAMY3005091, BRAMY3007609,
 BRAMY4000095, BRAMY4000229, BRAMY4000277, BRAWH2001395,
 20 BRAWH2002560, BRAWH2010000, BRAWH2010536, BRAWH2014414,
 BRAWH3000100, BRAWH3000491, BRAWH3001326, BRAWH3002574,
 BRAWH3005912, BRAWH3008341, BRCAN2002562, BRCAN2002856,
 BRCAN2002948, BRCAN2003746, BRCAN2006063, BRCAN2009203,
 BRCAN2014602, BRCAN2016619, BRCAN2017442, BRCAN2024451,
 25 BRCOC2001505, BRCOC2003213, BRHIP2000819, BRHIP2001805,
 BRHIP2009414, BRHIP2024165, BRHIP2026288, BRHIP3000339,
 BRHIP3008405, BRHIP3009448, BRHIP3027137, BRHIP3027854,
 BRSSN2000684, BRSSN2004719, BRSSN2014424, BRSTN2001613,
 BRSTN2004987, BRSTN2008418, BRTHA2002608, BRTHA2003110,
 30 BRTHA2007122, BRTHA2007603, BRTHA2008527, BRTHA2012980,
 BRTHA2014792, BRTHA3001721, BRTHA3002427, BRTHA3003074,
 BRTHA3003449, BRTHA3008778, BRTHA3009037, BRTHA3009090,
 BRTHA3015815, BRTHA3016917, BRTHA3017848, COLON2000568,
 COLON2002520, CTONG1000341, CTONG2000042, CTONG2009423,
 35 CTONG2010803, CTONG2017500, CTONG2023021, CTONG2025496,
 CTONG2025516, CTONG3000084, CTONG3002412, CTONG3008639,

D3OST2002182, D3OST2002648, DFNES2001108, FCBBF3009888,
 FEBRA2007708, FEBRA2008468, FEBRA2024744, HCASM2001301,
 HCASM2007737, HCHON2001712, HCHON2002676, HCHON2003532,
 HCHON2004007, HCHON2004531, HCHON2008112, HCHON2008444,
 5 HEART1000010, HEART1000139, HEART2001680, HEART2010495,
 HLUNG2002465, HSYRA2005496, IMR322000127, IMR322001380,
 IMR322006495, KIDNE2001847, KIDNE2012945, NESOP2001694,
 NOVAR2001108, NT2NE2003252, NT2NE2006531, NT2NE2006909,
 NT2RI2006686, NT2RI2025909, NT2RI3001515, NT2RI3006171,
 10 NT2RI3006340, NT2RI3006673, NT2RI3007757, NT2RI3008652,
 NT2RP7000359, NT2RP7005118, NT2RP7005529, NT2RP7010599,
 NTONG2000413, OCBBF2006058, OCBBF2020801, OCBBF2021788,
 OCBBF2031167, OCBBF2033869, OCBBF2036743, OCBBF2037068,
 OCBBF2037340, OCBBF3003320, PEBLM2000170, PEBLM2002887,
 15 PERIC2003720, PERIC2007914, PERIC2008385, PERIC2009086,
 PLACE5000282, PLACE6019385, PROST1000184, PROST2003428,
 PROST2016462, PROST2017367, PROST2018090, PROST2018511,
 PUAEN2002489, PUAEN2009795, SKNMC2007504, SMINT2010076,
 SPLEN2002467, SPLEN2006122, SPLEN2011422, SPLEN2012624,
 20 SPLEN2021701, SPLEN2031547, SPLEN2033098, SPLEN2036326,
 SPLEN2036821, SPLEN2036932, SYNOV2005817, SYNOV2012326,
 SYNOV2014400, SYNOV2021320, SYNOV3000231, SYNOV3000302,
 SYNOV4002883, SYNOV4004741, SYNOV4007360, SYNOV4007521,
 SYNOV4007553, SYNOV4007671, SYNOV4008440, TBAES2001229,
 25 TBAES2001258, TESOP2004114, TESOP2005485, TESOP2009121,
 TESTI1000257, TESTI1000319, TESTI2000644, TESTI2002618,
 TESTI2005610, TESTI2024567, TESTI2026505, TESTI2050987,
 TESTI2051867, TESTI2053399, TESTI2053621, TESTI4000014,
 TESTI4000079, TESTI4000288, TESTI4000349, TESTI4000724,
 30 TESTI4001148, TESTI4001176, TESTI4001527, TESTI4001561,
 TESTI4002491, TESTI4006420, TESTI4006819, TESTI4007163,
 TESTI4007778, TESTI4007810, TESTI4008050, TESTI4008429,
 TESTI4009160, TESTI4009457, TESTI4009881, TESTI4010851,
 TESTI4011745, TESTI4011956, TESTI4012406, TESTI4012448,
 35 TESTI4012505, TESTI4012679, TESTI4013369, TESTI4013924,
 TESTI4014175, TESTI4016110, TESTI4016822, TESTI4016925,

TESTI4017901, TESTI4018835, TESTI4018881, TESTI4018886,
 TESTI4020092, TESTI4021478, TESTI4022873, TESTI4023546,
 TESTI4026524, TESTI4027557, TESTI4028059, TESTI4028429,
 TESTI4028880, TESTI4030069, TESTI4034632, TESTI4034912,
 5 TESTI4035063, TESTI4035498, TESTI4036909, TESTI4037156,
 TESTI4040363, THYMU1000496, THYMU2005303, THYMU2008725,
 THYMU2019210, THYMU2027497, THYMU2027695, THYMU2027734,
 THYMU2031046, THYMU2033104, THYMU2035319, THYMU2037233,
 THYMU2041015, THYMU3001083, THYMU3001234, THYMU3001379,
 10 THYMU3003309, THYMU3004835, THYMU3006118, THYMU3007137,
 THYMU3008436, TKIDN2000701, TKIDN2006852, TLIVE2001327,
 TRACH2001549, TRACH2007059, TRACH2022425, TRACH2022649,
 TRACH3000558, TRACH3002168, TRACH3004721, TRACH3004786,
 TRACH3005549, TRACH3007479, TRACH3008629, TRACH3009455,
 15 TRACH3035526, TSTOM2000442, TUTER2000904, UTERU1000337,
 UTERU2005621, UTERU2007724, UTERU2017762, UTERU2019491,
 UTERU2019706, UTERU2025025, UTERU2026090, UTERU2027591,
 UTERU2035328, UTERU3000645, UTERU3000828, UTERU3000899,
 UTERU3001240, UTERU3001572, UTERU3001585, UTERU3001652,
 20 UTERU3003116, UTERU3003135, UTERU3005907, UTERU3007640,
 UTERU3008671, UTERU3009490, UTERU3009690, UTERU3009979,
 UTERU3015500, UTERU3016789

The following 84 clones are also predicted to belong to the category of disease-related protein.

25 BRACE3001113, BRACE3010076, BRAMY2039341, BRAMY3004800,
 BRAWH3009017, BRCAN2002473, BRCAN2002854, BRCAN2003070,
 BRHIP2005271, BRHIP2017553, BRHIP2026877, BRHIP3000240,
 BRHIP3008314, BRHIP3026052, BRSTN2013354, BRTHA2016318,
 BRTHA2017972, BRTHA3003000, CERVX2002013, CTONG1000113,
 30 CTONG2008721, CTONG2020411, CTONG3004550, FCBBF1000509,
 FEBRA2008692, HCASM2008536, HCHON2004858, HEART2009680,
 HLUNG2015548, HSYRA2005628, IMR322008651, IMR322013396,
 MESAN2001770, NT2RI2009583, NT2RI3007443, OCBBF2003327,
 OCBBF2009583, OCBBF2011669, OCBBF2024284, OCBBF2032274,
 35 OCBBF3000167, OCBBF3002654, PLACE7000502, PROST2000452,
 PROST2009320, SPLEN2004611, STOMA2003158, SYNOV1000256,

SYNOV4002744, SYNOV4003981, TBAES2000932, TESOP2000390,
 TESOP2001796, TESOP2005199, TESTI2015626, TESTI2025924,
 TESTI2026647, TESTI2039060, TESTI4000183, TESTI4006473,
 TESTI4011070, TESTI4017714, TESTI4019657, TESTI4021482,
 5 TESTI4024387, TESTI4025494, TESTI4025547, TESTI4028938,
 TESTI4031745, TESTI4032112, THYMU2004284, THYMU2028739,
 THYMU2031139, THYMU2031249, THYMU2035710, THYMU3000269,
 TLIVE2001684, TLIVE2002046, TRACH2024408, TRACH3003683,
 UTERU2021820, UTERU2032279, UTERU2033577, UTERU3000738

10 In particular, hit data of the following 338 clones for
 Swiss-Prot, or GenBank, UniGene, nr, or RefSeq corresponded to
 genes or proteins which had been deposited in the Online
 Mendelian Inheritance in Man (OMIM), which is the human gene and
 disease database (the OMIM Number is shown in the parenthesis
 15 after the Clone Name).

3NB692002806 (261630), ADIPS2000088 (147120), BLADE2005036
 (114850), BRACE2005457 (274600;603545;600791), BRACE2008594
 (601959), BRACE2014306 (193002), BRACE2016981 (602701),
 BRACE2018762 (604800), BRACE2035381 (606088), BRACE2038551
 20 (601961),
 BRACE2039249 (602273), BRACE2045300 (601442), BRACE3000840
 (600355), BRACE3001002 (300236), BRACE3001391 (601313;173900),
 BRACE3001754 (185641), BRACE3002508 (606417), BRACE3003595
 (602941), BRACE3004058 (250800), BRACE3004150 (601035),
 25 BRACE3004772 (603143), BRACE3008137 (602187), BRACE3008384
 (603264), BRACE3009708 (182340), BRACE3010397 (602187),
 BRACE3011271 (602187), BRACE3011421 (602187), BRACE3014807
 (605784), BRACE3015027 (602187), BRACE3015521 (605888),
 BRACE3018963 (605744), BRACE3020594 (400023), BRACE3027326
 30 (602187), BRALZ2017359 (604331), BRAMY2005052 (602621),
 BRAMY2038904 (605671), BRAMY2047751 (602512), BRAMY3000213
 (605448), BRAMY3005091 (600286), BRAMY3007609 (300315),
 BRAMY4000095 (602187), BRAMY4000229 (602159), BRAMY4000277
 (602187), BRAWH2001395 (159430), BRAWH2002560 (602865),
 35 BRAWH2010000 (602581), BRAWH2010536 (604010), BRAWH2014414
 (603006), BRAWH3000100 (601403), BRAWH3000491 (602187),

BRAWH3001326 (602187), BRAWH3002574 (602187), BRAWH3005912
 (602187), BRAWH3008341 (602187), BRCAN2002562 (602187),
 BRCAN2002856 (602712), BRCAN2002948 (603534), BRCAN2003746
 (311870), BRCAN2006063 (603196;601369), BRCAN2009203 (603143),
 5 BRCAN2014602 (601441), BRCAN2016619 (602187), BRCAN2017442
 (604455), BRCAN2024451 (602513), BRCOC2001505 (159430),
 BRCOC2003213 (602187), BRHIP2000819 (605000), BRHIP2001805
 (603219), BRHIP2009414 (602187), BRHIP2024165 (604402),
 BRHIP2026288 (602187), BRHIP3000339 (159430), BRHIP3008405
 10 (602187), BRHIP3009448 (602187), BRHIP3027137 (600249),
 BRHIP3027854 (601060), BRSSN2000684 (603505), BRSSN2004719
 (600560), BRSSN2014424 (606105), BRSTN2001613 (164020),
 BRSTN2004987 (604733), BRSTN2008418 (602187), BRTHA2002608
 (600463), BRTHA2003110 (602187), BRTHA2007122 (106410),
 15 BRTHA2007603 (605846), BRTHA2008527 (152790;176410),
 BRTHA2012980 (300119), BRTHA2014792 (601674), BRTHA3001721
 (604902),
 BRTHA3002427 (602187), BRTHA3003074 (605367), BRTHA3003449
 (160745), BRTHA3008778 (602187), BRTHA3009037 (602187),
 20 BRTHA3009090 (603197), BRTHA3015815 (600902), BRTHA3016917
 (604137), BRTHA3017848 (603377;212140), COLON2000568 (147000),
 COLON2002520 (602187), CTONG1000341 (188040), CTONG2000042
 (103950), CTONG2009423 (182137), CTONG2010803 (602189),
 CTONG2023021 (602498), CTONG2025496 (103950), CTONG2025516
 25 (601679), CTONG3000084 (600888), CTONG3002412 (601403),
 CTONG3008639 (601797), D3OST2002182 (603590), D3OST2002648
 (603071), DFNES2001108 (603560), FCBBF3009888 (602470),
 FEBRA2007708 (126650;214700), FEBRA2008468 (278000),
 HCASM2001301 (602399), HCASM2007737 (601504), HCHON2001712
 30 (109190),
 HCHON2002676 (252800), HCHON2003532 (172490), HCHON2004007
 (605866), HCHON2004531 (602187), HCHON2008112 (605837),
 HCHON2008444 (602187), HEART1000010 (602187), HEART1000139
 (191045;115195), HEART2001680 (146900), HEART2010495 (157132),
 35 HLUNG2002465 (605216), HSYRA2005496 (131195;187300),
 IMR322000127 (604077), IMR322001380 (605652), IMR322006495

(605607), KIDNE2012945 (600270), NOVAR2001108 (147120),
 NT2NE2003252 (602913), NT2NE2006531 (602277), NT2NE2006909
 (602187),
 NT2RI2006686 (602700), NT2RI2025909 (212138), NT2RI3001515
 5 (300362), NT2RI3006171 (114890), NT2RI3006340 (602187),
 NT2RI3006673 (602187), NT2RI3007757 (605396), NT2RI3008652
 (602654), NT2RP7000359 (603271), NT2RP7005118 (603379),
 NT2RP7005529 (600888), NT2RP7010599 (603684), NTONG2000413
 (602262), OCBBF2006058 (604773), OCBBF2020801 (602187),
 10 OCBBF2021788 (602597), OCBBF2031167 (603709), OCBBF2033869
 (600270), OCBBF2036743 (604075), OCBBF2037068 (602187),
 OCBBF2037340 (602187), OCBBF3003320 (605868), PEBLM2000170
 (602187), PEBLM2002887 (602187), PERIC2003720 (600381),
 PERIC2007914 (400009), PERIC2008385 (604455), PERIC2009086
 15 (600134;605158), PLACE5000282 (130160), PLACE6019385 (602448),
 PROST1000184 (192321), PROST2003428 (602187), PROST2016462
 (602187), PROST2017367 (600585), PROST2018090 (312610),
 PROST2018511 (602187), PUAEN2002489 (604658), PUAEN2009795
 (601456), SKNMC2007504 (602187), SMINT2010076 (146900),
 20 SPLEN2002467 (605652), SPLEN2006122 (604739), SPLEN2011422
 (114213), SPLEN2012624 (602187), SPLEN2021701 (142800),
 SPLEN2031547 (602187), SPLEN2033098 (602746), SPLEN2036326
 (602101), SPLEN2036821 (212138), SPLEN2036932 (605577),
 SYNOV2005817 (123889), SYNOV2012326 (604336), SYNOV2014400
 25 (135820), SYNOV2021320 (602104), SYNOV3000231 (147100),
 SYNOV3000302 (147100), SYNOV4002883 (602187), SYNOV4004741
 (602187), SYNOV4007360 (602187), SYNOV4007521 (605830),
 SYNOV4007553 (603028), SYNOV4007671 (602187), SYNOV4008440
 (602187), TBAES2001229 (602187), TBAES2001258 (142440),
 30 TESOP2004114 (601865), TESOP2005485 (147170), TESOP2009121
 (117143), TESTI1000257 (138170), TESTI1000319 (602187),
 TESTI2000644 (601392), TESTI2002618 (601533), TESTI2005610
 (601040), TESTI2024567 (601116), TESTI2026505 (305400),
 TESTI2050987 (605968), TESTI2051867 (180479), TESTI2053399
 35 (605819), TESTI2053621 (600364;602093), TESTI4000014 (602187),
 TESTI4000079 (603560), TESTI4000288 (602187), TESTI4000349

(604506), TESTI4000724 (603878), TESTI4001148 (602187),
 TESTI4001176 (601430), TESTI4001527 (602187), TESTI4001561
 (602187), TESTI4002491 (602187), TESTI4006420 (605612),
 TESTI4006819 (602187), TESTI4007163 (602187), TESTI4007778
 5 (602187), TESTI4007810 (600940), TESTI4008050 (602187),
 TESTI4008429 (602187), TESTI4009160 (602187), TESTI4009457
 (606185), TESTI4009881 (602187), TESTI4010851 (602187),
 TESTI4011745 (602187), TESTI4011956 (602187), TESTI4012406
 (602187), TESTI4012448 (185261), TESTI4012505 (602143),
 10 TESTI4012679 (601933), TESTI4013369 (602187), TESTI4013924
 (602187), TESTI4014175 (602187), TESTI4016110 (602187),
 TESTI4016822 (601792), TESTI4016925 (602187), TESTI4017901
 (104221), TESTI4018835 (602187), TESTI4018881 (605070),
 TESTI4018886 (602187), TESTI4020092 (156225), TESTI4021478
 15 (605868), TESTI4022873 (602187), TESTI4023546 (602187),
 TESTI4026524 (603277), TESTI4027557 (602187), TESTI4028059
 (232800;171850), TESTI4028429 (602187), TESTI4028880 (138170),
 TESTI4030069 (604603), TESTI4034632 (606251), TESTI4034912
 (602187), TESTI4035063 (602187), TESTI4035498 (602187),
 20 TESTI4036909 (602187), TESTI4037156 (606026), TESTI4040363
 (185641), THYMU1000496 (603060), THYMU2005303 (186910),
 THYMU2008725 (176882), THYMU2019210 (142830), THYMU2027497
 (182139), THYMU2027695 (147100), THYMU2027734 (145505),
 THYMU2031046 (604207), THYMU2033104 (605349), THYMU2035319
 25 (604739), THYMU2037233 (605121), THYMU2041015 (602187),
 THYMU3001083 (602187), THYMU3001234 (602187), THYMU3001379
 (602187), THYMU3003309 (300359), THYMU3004835 (602187),
 THYMU3006118 (603708), THYMU3007137 (602187), THYMU3008436
 (602187), TKIDN2000701 (600465), TKIDN2006852 (603602),
 30 TLIVE2001327 (601403), TRACH2001549 (603197), TRACH2007059
 (602187), TRACH2022425 (146900), TRACH2022649 (147100),
 TRACH3000558 (600140), TRACH3002168 (155735), TRACH3004721
 (602187), TRACH3004786 (602187), TRACH3005549 (602187),
 TRACH3007479 (602308), TRACH3008629 (600976), TRACH3009455
 35 (171833), TRACH3035526 (147000), TSTOM2000442 (147100),
 TUTER2000904 (602187), UTERU1000337 (602187), UTERU2005621

(603505), UTERU2007724 (602373), UTERU2017762 (601053),
 UTERU2019491 (603762), UTERU2019706 (600114), UTERU2025025
 (191315;164970;256000), UTERU2026090 (605497), UTERU2027591
 (600150),
 5 UTERU2035328 (605409), UTERU3000645 (602909), UTERU3000828
 (602187), UTERU3000899 (603062), UTERU3001240 (602187),
 UTERU3001572 (602187), UTERU3001585 (602187), UTERU3001652
 (602715), UTERU3003116 (602187), UTERU3003135 (602187),
 UTERU3005907 (190196), UTERU3007640 (603215), UTERU3008671
 10 (182120), UTERU3009490 (604585), UTERU3009690 (104221),
 UTERU3009979 (600441), UTERU3015500 (606667), UTERU3016789
 (602104)

Additionally, hit data of the following 84 clones for
 Swiss-Prot, or nr or RefSeq corresponded to genes or proteins
 15 which had been deposited in the Online Mendelian Inheritance in
 Man (OMIM), which is the human gene and disease database (the
 OMIM Number is shown in the parenthesis after the Clone Name).

BRACE3001113 (603971), BRACE3010076 (142695), BRAMY2039341
 (604077), BRAMY3004800 (602187), BRAWH3009017 (602187),
 20 BRCAN2002473 (602187), BRCAN2002854 (602895), BRCAN2003070
 (605574), BRHIP2005271 (600267), BRHIP2017553 (602187),
 BRHIP2026877 (600341), BRHIP3000240 (601142), BRHIP3008314
 (604480), BRHIP3026052 (601645), BRSTN2013354 (602187),
 BRTHA2016318 (605442), BRTHA2017972 (602932), BRTHA3003000
 25 (605276), CERVX2002013 (602903), CTONG1000113 (602277),
 CTONG2008721 (605317), CTONG2020411 (601930), CTONG3004550
 (605611), FCBBF1000509 (601933), FEBRA2008692 (604034),
 HCASM2008536 (194360), HCHON2004858 (602187), HEART2009680
 (601970), HLUNG2015548 (146690), HSYRA2005628 (602187),
 30 IMR322008651 (179617), IMR322013396 (600053), MESAN2001770
 (600495), NT2RI2009583 (605949), NT2RI3007443 (602448),
 OCBBF2003327 (605008), OCBBF2009583 (602277), OCBBF2011669
 (602187), OCBBF2024284 (176981), OCBBF2032274 (603975),
 OCBBF3000167 (194558), OCBBF3002654 (601893), PLACE7000502
 35 (164951), PROST2000452 (602060), PROST2009320 (605903),
 SPLEN2004611 (602228), STOMA2003158 (602244), SYNOV1000256

(606021), SYNOV4002744 (602187), SYNOV4003981 (604283),
 TBAES2000932 (606212), TESOP2000390 (602187), TESOP2001796
 (602187), TESOP2005199 (194531), TESTI2015626 (601249),
 TESTI2025924 (600863), TESTI2026647 (601235), TESTI2039060
 5 (154360), TESTI4000183 (601276), TESTI4006473 (602187),
 TESTI4011070 (602187), TESTI4017714 (602187), TESTI4019657
 (602052), TESTI4021482 (164730), TESTI4024387 (602187),
 TESTI4025494 (602187), TESTI4025547 (605308), TESTI4028938
 (603899), TESTI4031745 (602448), TESTI4032112 (603246),
 10 THYMU2004284 (314370), THYMU2028739 (604191), THYMU2031139
 (605009), THYMU2031249 (311550), THYMU2035710 (601890),
 THYMU3000269 (600857), TLIVE2001684 (120700), TLIVE2002046
 (125270), TRACH2024408 (106410), TRACH3003683 (150205),
 UTERU2021820 (126141), UTERU2032279 (600942), UTERU2033577
 15 (603397), UTERU3000738 (602187)

The clones predicted to belong to the category of enzyme
 and/or metabolism-related protein are the following 171 clones.

3NB692002806, ASTRO2002842, BLADE2005036, BRACE2008594,
 BRACE2030341, BRACE2035381, BRACE2038551, BRACE2039249,
 20 BRACE2041200, BRACE2045772, BRACE3004058, BRACE3009708,
 BRACE3011421, BRACE3016884, BRACE3024073, BRACE3025630,
 BRAMY2033267, BRAMY2039872, BRAMY3002803, BRAMY3004919,
 BRAMY3005091, BRAMY3005932, BRAMY4000095, BRAWH3002574,
 BRAWH3008341, BRCAN2003703, BRCAN2003746, BRCAN2009432,
 25 BRCAN2014602, BRCAN2017442, BRCAN2028355, BRCOC2003213,
 BRHIP2024165, BRHIP3008405, BRHIP3027137, BRHIP3027854,
 BRSTN2000872, BRSTN2004863, BRSTN2004987, BRSTN2008418,
 BRTHA2002608, BRTHA2009311, BRTHA2015406, BRTHA2016496,
 BRTHA3008778, BRTHA3009090, BRTHA3015815, BRTHA3016917,
 30 CTONG2004062, CTONG2006798, CTONG2013178, CTONG2028124,
 CTONG3009028, D3OST2002182, DFNES2001108, DFNES2005266,
 FCBBF3013307, FCBBF3023895, FEBRA2008468, FEBRA2026984,
 HCASM2001301, HCHON2002676, HCHON2003532, HCHON2004007,
 HEART2006131, HEART2010492, HHDPC1000118, HLUNG2011298,
 35 HLUNG2013204, HSYRA2008714, KIDNE2001361, KIDNE2006580,
 NT2NE2003252, NT2NE2006909, NT2RI2004618, NT2RI2025909,

NT2RI3006673, NT2RI3007978, NT2RI3008974, NT2RP7000359,
 NT2RP7004027, NT2RP7010599, NT2RP7014005, NTONG2000413,
 NTONG2008672, OCBBF2006005, OCBBF2006058, OCBBF2006151,
 OCBBF2019823, OCBBF2025527, OCBBF2030354, OCBBF2031167,
 5 OCBBF3003320, PEBLM2005183, PERIC2000889, PERIC2008385,
 PLACE6019385, PLACE7008431, PROST2017367, PUAEN2007044,
 PUAEN2009655, PUAEN2009852, SKNMC2006998, SKNMC2007504,
 SMINT1000192, SPLEN2010912, SYNOV2012326, SYNOV4002883,
 TBAES2001258, TESOP2000801, TESOP2004114, TESTI2005610,
 10 TESTI2005739, TESTI2016046, TESTI4000079, TESTI4000209,
 TESTI4000288, TESTI4000349, TESTI4001176, TESTI4001527,
 TESTI4001561, TESTI4002552, TESTI4006148, TESTI4006819,
 TESTI4007810, TESTI4008429, TESTI4010851, TESTI4012406,
 TESTI4012448, TESTI4013369, TESTI4013817, TESTI4014175,
 15 TESTI4016822, TESTI4018152, TESTI4018835, TESTI4019566,
 TESTI4021478, TESTI4022716, TESTI4023546, TESTI4026510,
 TESTI4026524, TESTI4028059, TESTI4029836, TESTI4034632,
 TESTI4036909, TESTI4046819, THYMU2008725, THYMU2027734,
 THYMU2031046, THYMU2031258, THYMU3001234, THYMU3003212,
 20 THYMU3004157, THYMU3004835, THYMU3006118, THYMU3008436,
 TKIDN2006852, TLIVE2002336, TRACH2001549, TRACH2009310,
 TRACH3007479, TRACH3036193, UTERU1000337, UTERU2019491,
 UTERU2025025, UTERU2026203, UTERU3000665, UTERU3001240,
 UTERU3001585, UTERU3003116, UTERU3005907

25 The following 59 clones are also predicted to belong to the
 category of enzyme and/or metabolism-related protein.

BRACE2039823, BRACE3010076, BRAMY2038516, BRAWH1000369,
 BRCAN2003070, BRHIP2005271, BRHIP2012360, BRHIP2026877,
 BRHIP3008314, BRTHA2013610, BRTHA2017364, BRTHA2017972,
 30 BRTHA2018011, BRTHA2018443, BRTHA3003000, CTONG2016942,
 FCBBF1000509, FEBRA2008692, HCASM2003099, HLUNG2015548,
 MESAN2005303, NT2RI3000174, NT2RI3007443, NT2RP7008435,
 NTONG2008093, OCBBF2003327, OCBBF2034637, OCBBF3002654,
 PROST2000452, SPLEN2039311, SPLEN2039379, STOMA2003158,
 35 TESOP2000390, TESTI2015626, TESTI2025924, TESTI2026647,
 TESTI2032643, TESTI2036288, TESTI2039060, TESTI4006473,

TESTI4011070, TESTI4014801, TESTI4017714, TESTI4019657,
 TESTI4021482, TESTI4031745, THYMU2004139, THYMU2004284,
 THYMU2031139, THYMU2031249, THYMU2040925, THYMU3000269,
 TLIVE2002046, TLIVE2007607, TRACH2024559, TRACH3003683,
 5 TRACH3007866, UTERU2021820, UTERU3000738

The clones predicted to belong to the category of cell division and/or cell proliferation-related protein are the following 42 clones.

BLADE2002782, BRACE2042550, BRACE2043248, BRACE3000840,
 10 BRALZ2017359, BRAMY2038484, BRAMY2046989, BRAWH2010536,
 BRAWH2014954, BRAWH3000100, BRHIP2000819, BRHIP2001927,
 BRHIP2009414, BRSSN2000684, CTONG3002412, CTONG3008258,
 CTONG3008639, FCBBF3002163, HCASM2001301, IMR322006495,
 NT2RI2006686, OCBBF2021020, OCBBF2037068, OCBBF3004314,
 15 PLACE5000282, PLACE6019385, PLACE7002641, PUAEN2006328,
 SPLEN2033098, TESOP2009121, TESTI1000545, TESTI2003573,
 TESTI2005610, TESTI4007810, TESTI4017901, THYMU2034374,
 THYMU2039315, TLIVE2001327, TRACH2025507, UTERU2005621,
 UTERU3009690, UTERU3009979

20 The following ten clones are also predicted to belong to the category of cell division and/or cell proliferation-related protein.

BRCAN2003070, BRTHA3003000, NT2RI3007443, PLACE7000502,
 SPLEN2004611, STOMA2003158, SYNOV4003981, TESTI4031745,
 25 THYMU2004139, THYMU2035078

The clones predicted to belong to the category of cytoskeleton-related protein are the following 55 clones.

ASTRO1000009, BLADE2004089, BRACE2026836, BRACE2045300,
 BRACE3006872, BRAMY3008466, BRAWH2001395, BRAWH2005315,
 30 BRAWH3002600, BRCOC2001505, BRHIP2000819, BRHIP3000339,
 BRHIP3008405, BRTHA2007122, BRTHA3003449, COLON2002520,
 CORDB2000541, FCBBF3021940, HCHON2001577, HEART1000139,
 HEART2010495, NT2RI3006340, NT2RP7000359, NTONG2005277,
 OCBBF2007068, OCBBF3003592, PERIC2000889, PLACE5000282,
 35 PROST1000559, SKMUS2006394, SPLEN2011422, SPLEN2015679,
 TESTI2049857, TESTI4000288, TESTI4001148, TESTI4007778,

TESTI4009160, TESTI4009881, TESTI4011956, TESTI4013924,
 TESTI4016925, TESTI4018886, TESTI4022873, TESTI4034912,
 TESTI4035063, TESTI4037727, THYMU1000496, THYMU2035735,
 THYMU3001083, THYMU3001234, TKIDN2000701, UTERU2007724,
 5 UTERU2008347, UTERU2035745, UTERU3003178

The following six clones are also predicted to belong to the category of cytoskeleton-related protein.

HLUNG2015418, SPLEN2030847, SPLEN2036702, TESTI4025268,
 TESTI4026207, TRACH2024408

10 The clones predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein are the following 42 clones.

BLADE2007958, BRACE2010489, BRACE2045300, BRACE3004150,
 BRACE3005430, BRACE3011421, BRAMY2046989, BRAMY3005932,
 15 BRCAN2002562, BRHIP2021615, BRSTN2001613, BRSTN2004987,
 COLON2000470, CTONG3009028, FCBBF3013307, HCHON2004531,
 IMR322006495, OCBBF2020801, PEBLM2005183, PUAEN2007044,
 SKNMC1000124, SMINT1000192, SPLEN2006122, SPLEN2010912,
 TESOP2009121, TESTI4009374, TESTI4009457, TESTI4013830,
 20 TESTI4019566, TESTI4022716, THYMU2033104, THYMU2035319,
 THYMU2038301, THYMU2040975, THYMU3001379, TRACH3004721,
 TRACH3036609, UTERU2026025, UTERU3000828, UTERU3001572,
 UTERU3003135, UTERU3004992

25 The following 16 clones are also predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein.

BRACE3010076, BRCAN2002854, BRHIP2006617, BRHIP2012360,
 BRHIP3026052, BRSTN2013354, BRTHA2017364, HCASM2003099,
 HCASM2008536, IMR322008651, NT2RI3000174, STOMA2003158,
 TESTI2026647, TESTI4006473, TESTI4021482, THYMU2035078

30 The clones predicted to belong to the category of protein synthesis and/or transport-related protein are the following 57 clones.

ASTRO2002842, BLADE2005036, BRACE3025630, BRAMY2033003,
 BRAMY3007609, BRAWH3000491, BRAWH3002574, BRAWH3008341,
 35 BRCAN2002856, BRCAN2002948, BRCOC2003213, BRSTN2004987,
 BRTHA2016496, BRTHA3013884, BRTHA3016917, CTONG2000042,

CTONG2013178, CTONG2023512, CTONG2024749, CTONG2025496,
 CTONG3001370, DFNES2005266, FEBRA2026984, HCASM2007737,
 HCHON2008444, HEART1000010, KIDNE2000846, NT2NE2006909,
 NT2RI2011422, NT2RP7004027, NTONG2000413, OCBBF2031167,
 5 TBAES2001229, TBAES2001258, TESTI1000319, TESTI2005610,
 TESTI2051867, TESTI4000209, TESTI4000349, TESTI4001106,
 TESTI4002491, TESTI4008050, TESTI4010851, TESTI4012406,
 TESTI4012448, TESTI4013924, TESTI4028429, TESTI4034912,
 THYMU2009157, TLIVE2008229, TRACH3007479, TRACH3008713,
 10 TRACH3036193, UTERU2019940, UTERU3001988, UTERU3003116,
 UTERU3007419

The following 15 clones are also predicted to belong to the category of protein synthesis and/or transport-related protein.

BRTHA2007060, BRTHA2018011, CTONG2016942, MESAN2001770,
 15 MESAN2005303, NT2RP7008435, OCBBF2003327, PROST2000452,
 TESOP2001796, TESTI4017714, THYMU2004284, THYMU2031139,
 TRACH2024559, TRACH3007866, UTERU2021820

The clones predicted to belong to the category of cellular defense-related protein are the following three clones.

20 BRACE3005430, HCHON2004531, TESTI4007810

The following four clones are also predicted to belong to the category of cellular defense-related protein.

BRHIP2012360, FCBBF3027854, HCASM2008536, UTERU2032279

The clones predicted to belong to the category of development and/or differentiation-related protein are the following nine clones.

BRACE3009747, BRTHA2005579, BRTHA3003343, IMR322000917,
 PEBLM2000170, TESOP2001122, TESOP2001953, TESTI2040018,
 UTERU3006308

30 The following five clones are also predicted to belong to the category of development and/or differentiation-related protein.

BRALZ2017844, CTONG2020378, HCHON2004858, OCBBF2019684,
 THYMU2006001

35 The clones predicted to belong to the category of DNA-binding and/or RNA-binding protein are the following 55 clones.

3NB692002685, BLADE2007958, BRACE2030326, BRACE2045596,
 BRACE3001002, BRACE3004150, BRACE3009747, BRACE3045033,
 BRCAN2002562, BRHIP2021615, BRSSN2014299, BRSTN2001613,
 BRSTN2004987, BRTHA2014792, BRTHA3001721, BRTHA3003343,
 5 CTONG2025516, CTONG3008831, CTONG3009028, FCBBF3013307,
 FEBRA2007544, FEBRA2007801, HEART1000074, IMR322000127,
 IMR322000917, NT2NE2006531, NT2RI3009158, OCBBF2020838,
 OCBBF2036743, PEBLM2002887, PEBLM2005183, SKNMC2007504,
 SMINT1000192, SPLEN2006122, TBAES2001229, TESTI2014716,
 10 TESTI2040018, TESTI2044796, TESTI4009374, TESTI4012679,
 TESTI4014175, TESTI4017543, TESTI4026510, TESTI4026524,
 THYMU2006420, THYMU2035319, THYMU2037233, THYMU2040975,
 THYMU3004866, TLIVE2008229, TRACH3036609, TUTER2000425,
 UTERU2026025, UTERU2035328, UTERU3009490

15 The following 74 clones are also predicted to belong to the
 category of DNA-binding and/or RNA-binding protein.

BRACE2003609, BRACE3001058, BRACE3001113, BRACE3010076,
 BRALZ2017844, BRAMY2035070, BRAMY2035449, BRAMY2035718,
 BRAMY2039341, BRAWH1000369, BRAWH2006207, BRCAN2002854,
 20 BRHIP2012360, BRHIP2017553, BRSTN2013354, BRTHA2017364,
 CERVX2002013, CTONG1000113, CTONG2008721, CTONG2020378,
 CTONG2020411, CTONG2028758, CTONG3004726, DFNES2011192,
 FEBRA2014122, FEBRA2027609, HCASM2003018, HCASM2009424,
 HCHON2004858, HSYRA2005628, IMR322008651, MESAN2001770,
 25 MESAN2005303, MESAN2014412, MESAN2015501, NT2RI2008952,
 NT2RI2018448, NT2RI3000174, NT2RI3001132, OCBBF2008144,
 OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2032274,
 OCBBF3000167, SPLEN2004611, SPLEN2016135, SPLEN2016781,
 SYNOV2021953, SYNOV4002744, TESOP2005199, TESOP2006398,
 30 TESOP2006865, TESTI2026647, TESTI2034251, TESTI4000183,
 TESTI4000214, TESTI4006473, TESTI4008302, TESTI4015442,
 TESTI4025494, TESTI4025547, TESTI4028938, TESTI4032112,
 THYMU2006001, THYMU2035078, TRACH2007483, TRACH3000134,
 TRACH3002561, TRACH3003832, TUTER2000057, UTERU2033577,
 35 UTERU3001053, TESTI4038779

The clones predicted to belong to the category of ATP binding and/or GTP-binding protein are the following 68 clones.

BNGH42007788, BRACE2008594, BRACE2047377, BRACE3005430,
 BRACE3008720, BRACE3009708, BRACE3015521, BRACE3024073,
 5 BRAMY4000095, BRCAN2009432, BRCOC2003213, BRHIP3008405,
 BRSTN2013741, BRTHA3003449, BRTHA3015815, BRTHA3016917,
 COLON2002520, FEBRA2026984, HCASM2001301, HCHON2004007,
 HSYRA2008714, KIDNE2001361, KIDNE2001847, NESOP2001694,
 NT2RI2005166, NT2RP7013795, OCBBF3003320, OCBBF3003592,
 10 PEBLM2002594, PERIC2000889, PLACE6019385, SMINT1000192,
 SPLEN2037194, TESOP2000801, TESTI2006648, TESTI4000288,
 TESTI4001148, TESTI4001176, TESTI4002552, TESTI4007810,
 TESTI4008429, TESTI4009160, TESTI4009881, TESTI4011956,
 TESTI4013817, TESTI4014175, TESTI4016925, TESTI4018208,
 15 TESTI4018835, TESTI4019566, TESTI4021478, TESTI4022873,
 TESTI4026524, TESTI4029836, TESTI4035498, TESTI4036909,
 TESTI4037727, THYMU1000496, THYMU2033079, THYMU3001083,
 THYMU3001234, THYMU3001379, TRACH2009310, UTERU2019706,
 UTERU2025025, UTERU2035745, UTERU3000665, UTERU3000828

20 The following 24 clones are also predicted to belong to the category of ATP binding and/or GTP-binding protein.

BRHIP2026877, BRTHA2017364, BRTHA2018443, IMR322008651,
 IMR322013731, NT2RI3007443, NTONG2008093, OCBBF3002654,
 TESOP2000390, TESOP2007384, TESTI2025924, TESTI2026647,
 25 TESTI2049956, TESTI4005317, TESTI4006473, TESTI4021482,
 TESTI4026207, TESTI4031745, THYMU2004139, THYMU2031249,
 TRACH2000862, TRACH2024559, TRACH3000420, UTERU3000738

The 119 clones shown below are clones which were unassignable to any of the above-mentioned categories, but have
 30 been predicted to have some functions based on homology search using their full-length nucleotide sequences. Clone Name and Definition in the result of homology search, demarcated by a double slash mark (//), are shown below.

ADRGL2009691// Mus musculus D11lgp1 mRNA, complete cds.
 35 ADRGL2009755// Homo sapiens brain and reproductive organ-expressed protein (BRE) mRNA, complete cds.

- ASTRO3000177// *Drosophila melanogaster* BcDNA.GH03694
(BcDNA.GH03694) mRNA, complete cds.
- BLADE2008398// *Homo sapiens* LRR FLI-I interacting protein 2
(LRRFIP2) mRNA, complete cds.
- 5 BRACE2006319// *Homo sapiens* mRNA for Fln29, complete cds.
BRACE2027258// *Homo sapiens* E2a-Pbx1-associated protein (EB-1)
mRNA, partial cds.
BRACE2038329// *Rattus norvegicus* CBL-B (Cbl-b) mRNA, partial cds.
BRACE2046251// *Homo sapiens* hucep-10 mRNA for cerebral protein-
10 10, complete cds.
BRACE3003192// latent transforming growth factor beta binding
protein 3 [*Homo sapiens*]
BRACE3007625// *espin* [*Rattus norvegicus*]
BRACE3009297// *mdgl-1* [*Mus musculus*]
- 15 BRACE3015262// *espin* [*Mus musculus*]
BRACE3025457// testis-specific protein TSP-NY [*Homo sapiens*]
BRALZ2016498// *Homo sapiens* FKSG76 (FKSG76) mRNA, complete cds.
BRAMY2030109// *Homo sapiens* hucep-4 mRNA for cerebral protein-4,
complete cds.
- 20 BRAMY2031317// *Mus musculus* semaphorin cytoplasmic domain-
associated protein 3A (Semcap3) mRNA, complete cds.
BRAMY2047746// nasopharyngeal carcinoma susceptibility protein
[*Homo sapiens*]
BRAMY3001794// *Rattus norvegicus* Circadian Oscillatory Protein
25 (SCOP) (Scop)
BRAWH2001940// *H.sapiens* gene from PAC 1026E2, partial.
BRAWH2012162// KE03 protein [*Homo sapiens*]
BRAWH2016724// MAP2=HMW-MAP2 {alternatively spliced} [rats,
brain, mRNA Partial, 267 nt].
- 30 BRAWH3002821// synaptotagmin-like 2 [*Mus musculus*]
BRCAN2002944// *Mus musculus* huntington yeast partner C (Hypc)
mRNA, complete cds.
BRCAN2013660// *Arabidopsis thaliana* putative protein (F4F15.330)
mRNA, complete cds.
- 35 BRHIP2002122// *Homo sapiens* B aggressive lymphoma long isoform
(BAL) mRNA, complete cds.

- BRHIP2003786// CCA3 [Rattus norvegicus]
 BRHIP2004359// ELAC PROTEIN.
 BRHIP2007616// plexin 2
 BRHIP2029393// COBW-like protein [Homo sapiens]
 5 BRHIP3008313// testis specific ankyrin-like protein 1 [Homo sapiens]
 BRSSN2013874// TEMO [Rattus norvegicus]
 BRSTN2017771// Homo sapiens putative BTK-binding protein mRNA, complete cds.
 10 BRTHA2012392// Homo sapiens HCDI (HCDI) mRNA, complete cds.
 BRTHA3002933// uroplakin 3 [Homo sapiens]
 BRTHA3008310// Mus musculus mRNA for iroquois homeobox protein 6 (Irx6 gene).
 BRTHA3008520// sporulation-induced transcript 4-associated
 15 protein; hypothetical protein FLJ11058 [Homo sapiens]
 COLON2001721// GLUT4 vesicle protein [Mus musculus]
 CTONG1000467// Mus musculus mRNA for Deltex3, complete cds.
 CTONG2020026// Drosophila melanogaster BcDNA.GH09358 (BcDNA.GH09358) mRNA, complete cds.
 20 CTONG3001123// Mus musculus Pax transcription activation domain interacting protein PTIP mRNA, complete cds.
 CTONG3002127// granuphilin [Mus musculus]
 CTONG3004072// GL002 protein [Homo sapiens]
 CTONG3006186// syntaxin binding protein 4 [Mus musculus]
 25 CTONG3008894// Mus musculus SH3-domain binding protein 5
 FCBBF1000297// Human protein immuno-reactive with anti-PTH polyclonal antibodies mRNA, partial cds.
 HCHON2000028// Homo sapiens 7h3 protein mRNA, partial cds.
 HCHON2000626// X-linked protein STS1769.
 30 HCHON2001217// Homo sapiens cullin CUL4B (CUL4B) mRNA, complete cds.
 HEART2006909// Hemolysin C.
 HLUNG2011041// basic proline-rich peptide IB-8a - human (fragments)
 35 HLUNG2014288// Mus musculus RP42 mRNA, complete cds.
 IMR322006886// Homo sapiens hepatocellular carcinoma-associated

- antigen 127 (HCA127) mRNA, complete cds.
 KIDNE2002252// Drosophila melanogaster BcDNA.GH09358
 (BcDNA.GH09358) mRNA, complete cds.
 KIDNE2011532// similar to melanoma-associated chondroitin
 5 sulfate proteoglycan 4
 NT2RI2012990// 76.5 KDA PROTEIN C21ORF13.
 NT2RI2025957// LU1 protein [Homo sapiens]
 NT2RI3006284// Homo sapiens chorea-acanthocytosis (CHAC) mRNA,
 complete cds.
- 10 NT2RI3008697// erythroblast macrophage protein [Mus musculus]
 NT2RP8000296// similar to Kelch proteins
 NTONG2007517// RING CANAL PROTEIN (KELCH PROTEIN).
 OCBBF2002124// p40 [Homo sapiens]
 OCBBF2007610// PSD-95/SAP90-associated protein-4 [Rattus
 15 norvegicus].
 OCBBF2021323// Mus musculus GTRGEO22 (Gtrgeo22) mRNA, complete
 cds.
 OCBBF2028173// JM11 protein [Homo sapiens]
 PEBLM2001465// diphthamide biosynthesis; Dph5p [Saccharomyces
 20 cerevisiae]
 PERIC2004028// Mus musculus erythroblast macrophage protein EMP
 mRNA, complete cds.
 PLACE7006051// cytoplasmic dynein heavy chain 2 [Rattus
 norvegicus]
- 25 PROST2008993// Mus musculus Pax transcription activation domain
 interacting protein PTIP mRNA, complete cds.
 PUAEN2003079// nasopharyngeal carcinoma susceptibility protein
 [Homo sapiens]
 SPLEN2002147// Halocynthia roretzi mRNA for HrPET-3, complete
 30 cds.
 SPLEN2032154// NDRG1 PROTEIN (DIFFERENTIATION-RELATED GENE 1
 PROTEIN) (DRG1) (REDUCING AGENTS AND TUNICAMYCIN-RESPONSIVE
 PROTEIN) (RTP) (NICKEL- SPECIFIC INDUCTION PROTEIN CAP43).
 SYNOV2005216// Homo sapiens laryngeal carcinoma related protein
 35 1 mRNA, complete cds.
 SYNOV2007965// Homo sapiens mRNA for H-1(3)mbt-like protein,

- alternative variant a.
 SYNOV4000706// B cell phosphoinositide 3-kinase adaptor [Mus musculus]
 TBAES2004055// NY-REN-50 antigen
- 5 TESOP2001605// Homo sapiens laryngeal carcinoma related protein 1 mRNA, complete cds.
 TESOP2005285// Homo sapiens partial mRNA for chr2 synaptotagmin (CHR2SYT gene).
 TESTI2004215// Maackia amurensis early nodulin (ENOD2) mRNA,
 10 partial cds.
 TESTI2009477// TRICHOHYALIN.
 TESTI2034520// Rattus norvegicus SMC (segregation of mitotic chromosomes 1)-like 1 (yeast) (Smc1l1), mRNA
 TESTI2052693// brk kinase substrate [Homo sapiens].
- 15 TESTI4006079// MUF1 protein; likely ortholog of mouse MUF1; elongin BC-interacting leucine-rich repeat protein [Homo sapiens]
 TESTI4006393// neural specific sr protein NSSR 2 [Mus musculus]
 TESTI4006546// colon cancer antigen NY-CO-45 [Homo sapiens].
- 20 TESTI4006802// mesothelin; megakaryocyte potentiating factor [Mus musculus]
 TESTI4008018// DAZ associated protein 2; KIAA0058 gene product [Homo sapiens]
 TESTI4009286// Homo sapiens HOTTL protein mRNA, complete cds
- 25 TESTI4009563// testis specific ankyrin-like protein 1 [Homo sapiens]
 TESTI4010831// yeast Sec3lp homolog; ABP125 [Homo sapiens]
 TESTI4011484// Sec23-interacting protein p125 [Homo sapiens]
 TESTI4014818// AD-012 protein [Homo sapiens]
- 30 TESTI4014924// selective hybridizing clone [Mus musculus]
 TESTI4019140// Mi-2 histone deacetylase complex protein 66 [Xenopus laevis]
 TESTI4019843// Rattus norvegicus huntingtin-associated protein interacting protein (duo) (Hapip), mRNA.
- 35 TESTI4023762// Trichohyalin.
 TESTI4025920// B29 protein [Homo sapiens]

- TESTI4039659// DnaJ homolog subfamily B member 8 (mDJ6).
- TESTI4044186// leucine-rich, glioma inactivated 1 [Mus musculus]
- THYMU2011736// latent transforming growth factor beta binding protein 3
- 5 THYMU2032825// Mus musculus mRNA for Drctnnbla, complete cds.
- THYMU2038369// Mus musculus GTRGEO22 (Gtrgeo22) mRNA, complete cds.
- THYMU3001991// ART-4 protein [Homo sapiens]
- THYMU3006172// membrane bound C2 domain containing protein
- 10 [Rattus norvegicus]
- TLIVE2003225// CUB and Sushi multiple domains 1 [Homo sapiens]
- TLIVE2004320// Homo sapiens PC2-glutamine-rich-associated protein (PCQAP) mRNA, complete cds.
- TOVAR2002247// Homo sapiens partial partial mRNA for NICE-4
- 15 protein, clone 3114f17.
- TRACH2023299// growth factor receptor bound protein 2-associated protein 2 [Mus musculus]
- TRACH3000926// cardiac morphogenesis [Mus musculus]
- TRACH3001427// p47 [Homo sapiens]
- 20 TRACH3006412// Homo sapiens COP9 constitutive photomorphogenic homolog subunit 7B
- TRACH3034731// Ras association (RalGDS/AF-6) domain family 2
- TUTER2002729// D6MM5E protein [Mus musculus]
- UTERU1000031// G.gallus mRNA for tom-1B protein.
- 25 UTERU2006115// ALPHA-ADAPTIN A (CLATHRIN ASSEMBLY PROTEIN COMPLEX 2 ALPHA-A LARGE CHAIN) (100 KDA COATED VESICLE PROTEIN A) (PLASMA MEMBRANE ADAPTOR HA2/AP2 ADAPTIN ALPHA A SUBUNIT).
- UTERU2031268// NY-REN-25 antigen [Homo sapiens].
- UTERU2035452// NG3 [Homo sapiens]
- 30 UTERU3001059// ABC1 protein homolog, mitochondrial precursor.
- UTERU3005585// rhophilin-like protein [Homo sapiens]
- UTERU3009871// feminization 1 homolog a (C. elegans)

Similarly, the 14 clones shown below are clones which were unassignable to any of the above-mentioned categories, but have

35 been predicted to have some functions based on homology search using their full-length nucleotide sequences. Clone Name and

Definition in the result of homology search, demarcated by a double slash mark (//), are shown below.

ADRGL2000042//Homo sapiens CTCL tumor antigen se20-4 mRNA, complete cds.

- 5 BRACE3009127//oxysterol binding protein 2; oxysterol binding protein-like 1 [Homo sapiens]
 BRACE3021148//DC12 protein [Homo sapiens]
 BRAMY2040159//Homo sapiens MRIP-1 mRNA, complete cds.
 BRAWH3007441//CAT56 protein [Homo sapiens]
- 10 CTONG3001501//Mus musculus glucocorticoid-induced gene 1 mRNA, complete cds.
 HCHON2000508//Homo sapiens prostate antigen PARIS-1 mRNA, complete cds.
 OCBBF2020048// 95 kDa retinoblastoma protein binding protein;
- 15 KIAA0661 gene product
 PERIC2007068//Mus musculus mRNA for 1A13 protein.
 TESTI4010382//cytoplasmic dynein heavy chain 2 [Rattus norvegicus]
 TESTI4011072//tudor domain containing 1 [Mus musculus]
- 20 TESTI4046240//sirtuin 7
 UTERU2019534//Golgi apparatus protein 1 [Homo sapiens]
 UTERU2028734//Mus musculus slp2-a mRNA for synaptotagmin-like protein 2-a delta 2S-III, complete cds.

25 So far no information suggesting the function of the remaining 1,061 clones has been provided by the homology search. The functions of these clones may be clarified when an updated database becomes available in future. Clone names are shown below.

- 30 3NB692008729, ADRGL2012038, ADRGL2012179, ASTRO2003960, ASTRO2018373, ASTRO3000172, ASTRO3000482, BLADE2001371, BLADE2001987, BLADE2003474, BLADE2005459, BLADE2007666, BLADE2008281, BRACE1000258, BRACE1000533, BRACE1000572, BRACE2003639, BRACE2011747, BRACE2014475, BRACE2014657, BRACE2015058, BRACE2015314, BRACE2024627, BRACE2027970,
- 35 BRACE2028970, BRACE2029849, BRACE2031154, BRACE2031389, BRACE2032044, BRACE2032329, BRACE2032538, BRACE2032823,

BRACE2033720, BRACE2035441, BRACE2036096, BRACE2036830,
BRACE2036834, BRACE2037847, BRACE2038114, BRACE2039475,
BRACE2039734, BRACE2040325, BRACE2041009, BRACE2041264,
BRACE2043349, BRACE2044816, BRACE2044949, BRACE2045428,
5 BRACE2045947, BRACE2045954, BRACE2047011, BRACE2047350,
BRACE2047385, BRACE3000071, BRACE3000787, BRACE3000973,
BRACE3001217, BRACE3001595, BRACE3002390, BRACE3003698,
BRACE3004358, BRACE3004435, BRACE3004783, BRACE3004880,
BRACE3005145, BRACE3005225, BRACE3005499, BRACE3006185,
10 BRACE3006226, BRACE3007322, BRACE3007472, BRACE3007480,
BRACE3007559, BRACE3007642, BRACE3007767, BRACE3008036,
BRACE3008092, BRACE3008772, BRACE3009090, BRACE3009237,
BRACE3009377, BRACE3009701, BRACE3009724, BRACE3010428,
BRACE3012364, BRACE3012930, BRACE3013119, BRACE3013576,
15 BRACE3013780, BRACE3014231, BRACE3014317, BRACE3015121,
BRACE3015894, BRACE3018308, BRACE3019055, BRACE3020194,
BRACE3022769, BRACE3023912, BRACE3024659, BRACE3025153,
BRACE3026075, BRACE3027242, BRACE3027478, BRACE3030103,
BRACE3032983, BRALZ2011796, BRALZ2012183, BRALZ2012848,
20 BRALZ2014484, BRAMY2003008, BRAMY2019985, BRAMY2020058,
BRAMY2020270, BRAMY2028914, BRAMY2029602, BRAMY2030098,
BRAMY2030702, BRAMY2030703, BRAMY2030799, BRAMY2031377,
BRAMY2031442, BRAMY2032014, BRAMY2032242, BRAMY2032317,
BRAMY2034185, BRAMY2034920, BRAMY2034993, BRAMY2036387,
25 BRAMY2036699, BRAMY2036913, BRAMY2037823, BRAMY2038100,
BRAMY2038846, BRAMY2040478, BRAMY2041261, BRAMY2041378,
BRAMY2042612, BRAMY2042641, BRAMY2042760, BRAMY2042918,
BRAMY2044078, BRAMY2044246, BRAMY2046478, BRAMY2046742,
BRAMY2047169, BRAMY2047676, BRAMY2047884, BRAMY3000206,
30 BRAMY3001401, BRAMY3002620, BRAMY3002805, BRAMY3004672,
BRAMY3004900, BRAMY3006297, BRAMY3008650, BRAMY3009811,
BRAMY3010411, BRASW1000053, BRAWH2001671, BRAWH2001973,
BRAWH2010084, BRAWH2012326, BRAWH2013294, BRAWH2013871,
BRAWH2014645, BRAWH2014662, BRAWH2014876, BRAWH3000345,
35 BRAWH3002819, BRAWH3003522, BRAWH3003801, BRAWH3005422,
BRAWH3005981, BRAWH3006792, BRAWH3007726, BRAWH3007783,

BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2003987,
BRCAN2004355, BRCAN2005436, BRCAN2006290, BRCAN2006297,
BRCAN2006450, BRCAN2007144, BRCAN2007409, BRCAN2007426,
BRCAN2008528, BRCAN2011254, BRCAN2011602, BRCAN2014881,
5 BRCAN2015371, BRCAN2015464, BRCAN2016433, BRCAN2017717,
BRCAN2017905, BRCAN2018935, BRCAN2019387, BRCAN2020710,
BRCAN2021028, BRCAN2024563, BRCAN2025712, BRCOC2000670,
BRCOC2014033, BRCOC2016525, BRCOC2020142, BRHIP2000826,
BRHIP2000920, BRHIP2001074, BRHIP2002346, BRHIP2003242,
10 BRHIP2003917, BRHIP2004312, BRHIP2005354, BRHIP2005600,
BRHIP2005719, BRHIP2005932, BRHIP2006800, BRHIP2007741,
BRHIP2009340, BRHIP2009474, BRHIP2014228, BRHIP2022221,
BRHIP2024146, BRHIP2026061, BRHIP2029176, BRHIP3001283,
BRHIP3006683, BRHIP3008183, BRHIP3008344, BRHIP3008565,
15 BRHIP3008997, BRHIP3009099, BRHIP3011241, BRHIP3013765,
BRHIP3013897, BRHIP3016213, BRHIP3018797, BRHIP3020182,
BRHIP3024533, BRHIP3024725, BRHIP3025702, BRSSN2006892,
BRSSN2008797, BRSSN2011262, BRSSN2014556, BRSSN2018581,
BRSTN2001067, BRSTN2002400, BRSTN2005721, BRSTN2006865,
20 BRSTN2007284, BRSTN2008052, BRSTN2008283, BRSTN2008457,
BRSTN2009899, BRSTN2010500, BRSTN2010750, BRSTN2012320,
BRSTN2017084, BRSTN2017237, BRSTN2018083, BRSTN2019129,
BRTHA1000311, BRTHA2000855, BRTHA2001462, BRTHA2002115,
BRTHA2002442, BRTHA2003030, BRTHA2003116, BRTHA2004821,
25 BRTHA2004978, BRTHA2005956, BRTHA2006146, BRTHA2006194,
BRTHA2007422, BRTHA2008316, BRTHA2008335, BRTHA2008535,
BRTHA2008955, BRTHA2009846, BRTHA2009972, BRTHA2010073,
BRTHA2010608, BRTHA2010884, BRTHA2010907, BRTHA2011351,
BRTHA2011500, BRTHA2011641, BRTHA2012562, BRTHA2013262,
30 BRTHA2013707, BRTHA2014828, BRTHA2015478, BRTHA2016543,
BRTHA2017353, BRTHA2018165, BRTHA2018591, BRTHA2018707,
BRTHA2019014, BRTHA2019022, BRTHA2019048, BRTHA3000273,
BRTHA3000297, BRTHA3002401, BRTHA3003490, BRTHA3004475,
BRTHA3005046, BRTHA3006856, BRTHA3007113, BRTHA3007319,
35 BRTHA3007769, BRTHA3008143, BRTHA3010366, BRTHA3015910,
BRTHA3018514, BRTHA3018617, BRTHA3019105, CERVX1000042,

COLON1000030, COLON2003043, COLON2006282, COLON2009499,
 CORDB1000140, CORDB2000061, CTONG1000087, CTONG1000088,
 CTONG1000288, CTONG1000540, CTONG2001877, CTONG2019248,
 CTONG2019704, CTONG2019833, CTONG2020806, CTONG2021132,
 5 CTONG2022153, CTONG2024206, CTONG2025900, CTONG3000657,
 CTONG3000686, CTONG3000896, CTONG3001420, CTONG3002674,
 CTONG3003652, CTONG3003654, CTONG3003905, CTONG3003972,
 CTONG3004712, CTONG3005325, CTONG3005713, CTONG3005813,
 CTONG3006067, CTONG3006650, CTONG3007444, CTONG3007528,
 10 CTONG3007586, CTONG3007870, DFNES2011239, DFNES2011499,
 ERLTF2000324, FCBBF3001977, FCBBF3004847, FCBBF3006171,
 FCBBF3007242, FCBBF3008944, FCBBF3012288, FCBBF3013846,
 FCBBF3023443, FCBBF3025730, FCBBF3027717, FEBRA2000253,
 FEBRA2006396, FEBRA2007793, FEBRA2008287, FEBRA2008360,
 15 FEBRA2010719, FEBRA2014213, FEBRA2015588, FEBRA2020484,
 FEBRA2020582, FEBRA2020886, FEBRA2021339, FEBRA2021571,
 FEBRA2021908, FEBRA2021966, FEBRA2024136, FEBRA2024150,
 FEBRA2024343, FEBRA2027297, FEBRA2027352, FEBRA2028366,
 FEBRA2028477, FEBRA2028618, HCASM2002918, HCASM2003415,
 20 HCHON2000244, HCHON2000418, HCHON2006714, HCHON2007881,
 HEART1000088, HEART2001756, HEART2007031, HEART2010391,
 HHDPC2001337, HLUNG1000017, HLUNG2001996, HLUNG2002958,
 HLUNG2003003, HLUNG2012049, HLUNG2012287, HLUNG2012727,
 HLUNG2013304, HLUNG2013622, HLUNG2013851, HLUNG2014262,
 25 HLUNG2014449, HLUNG2017546, HLUNG2017806, HLUNG2019058,
 HSYRA2004858, HSYRA2005456, HSYRA2007667, HSYRA2008376,
 HSYRA2009075, IMR322002035, IMR322003675, IMR322007225,
 IMR322016146, IMR322018117, KIDNE2000665, KIDNE2000722,
 KIDNE2002991, KIDNE2003837, KIDNE2005543, KIDNE2011314,
 30 LYMPB1000141, MESAN2006563, MESAN2014295, MESAN2015515,
 MESAN2018576, MESTC2000153, NB9N41000340, NCRRP1000129,
 NESOP2000744, NESOP2001656, NESOP2001752, NESOP2002738,
 NHNPC2000877, NHNPC2001816, NHNPC2002565, NHNPC2002749,
 NOVAR2000710, NOVAR2000962, NOVAR2001783, NT2NE2005890,
 35 NT2NE2008060, NT2RI2003993, NT2RI2011683, NT2RI2012659,
 NT2RI2013357, NT2RI2014247, NT2RI2014551, NT2RI2014733,

NT2RI2016128, NT2RI2018311, NT2RI2018883, NT2RI2019751,
NT2RI2023303, NT2RI2027081, NT2RI2027396, NT2RI3000622,
NT2RI3002303, NT2RI3002842, NT2RI3002892, NT2RI3003031,
NT2RI3003162, NT2RI3004381, NT2RI3004510, NT2RI3005202,
5 NT2RI3005724, NT2RI3006132, NT2RI3006376, NT2RI3006796,
NT2RI3007158, NT2RI3007291, NT2RI3008055, NT2RI3008162,
NT2RP7004123, NT2RP7005846, NT2RP7009867, NT2RP7010128,
NT2RP7011570, NT2RP7015512, NT2RP7017365, NT2RP7017474,
NT2RP7017546, NT2RP8000137, NTONG2003852, NTONG2005969,
10 NTONG2006354, NTONG2007249, NTONG2008088, OCBBF1000254,
OCBBF2001794, OCBBF2003819, OCBBF2004883, OCBBF2005428,
OCBBF2007478, OCBBF2008770, OCBBF2009788, OCBBF2010416,
OCBBF2019327, OCBBF2020343, OCBBF2020453, OCBBF2020639,
OCBBF2020741, OCBBF2021286, OCBBF2022574, OCBBF2023162,
15 OCBBF2023643, OCBBF2024781, OCBBF2024850, OCBBF2025028,
OCBBF2025730, OCBBF2026645, OCBBF2027423, OCBBF2027478,
OCBBF2028935, OCBBF2029901, OCBBF2030708, OCBBF2031366,
OCBBF2032599, OCBBF2032611, OCBBF2032671, OCBBF2035110,
OCBBF2035214, OCBBF2035564, OCBBF2035885, OCBBF2035916,
20 OCBBF2036476, OCBBF2037398, OCBBF2037638, OCBBF3000296,
OCBBF3002553, OCBBF3002600, OCBBF3006802, OCBBF3007516,
OCBBF3008230, OCBBF3009279, PEBLM2001488, PEBLM2002749,
PEBLM2004497, PEBLM2004666, PEBLM2005697, PEBLM2007112,
PEBLM2007140, PERIC1000147, PERIC2000914, PERIC2001228,
25 PERIC2002766, PERIC2003090, PERIC2003699, PERIC2003834,
PERIC2004259, PERIC2004379, PERIC2004429, PERIC2005370,
PLACE5000001, PLACE6001185, PLACE6009006, PLACE7001936,
PLACE7008623, PROST2015243, PROST2017413, PROST2017700,
PROST2018030, PROST2019296, PROST2019781, PUAEN2002616,
30 PUAEN2005930, PUAEN2007785, SKMUS2003074, SKMUS2004047,
SKNMC2004457, SKNMC2004643, SKNMC2005772, SKNMC2007961,
SKNMC2009450, SKNSH2000482, SKNSH2009991, SKNSH2010015,
SMINT2001818, SMINT2006641, SMINT2007391, SMINT2010897,
SMINT2011311, SPLEN2002707, SPLEN2014946, SPLEN2016554,
35 SPLEN2016863, SPLEN2017104, SPLEN2024127, SPLEN2027268,
SPLEN2028844, SPLEN2028914, SPLEN2029051, SPLEN2029176,

SPLLEN2029727, SPLLEN2029912, SPLLEN2032321, SPLLEN2033153,
 SPLLEN2033539, SPLLEN2033921, SPLLEN2034081, SPLLEN2034678,
 SPLLEN2036103, SPLLEN2036712, SPLLEN2037580, SPLLEN2037630,
 SPLLEN2038055, SPLLEN2039697, SPLLEN2039936, SPLLEN2041310,
 5 SPLLEN2041645, SPLLEN2041720, SPLLEN2041977, SPLLEN2042303,
 STOMA1000189, STOMA2003444, STOMA2004925, SYNOV1000374,
 SYNOV2005448, SYNOV2006430, SYNOV2017055, SYNOV2018921,
 SYNOV4000472, SYNOV4001326, SYNOV4001395, SYNOV4002346,
 SYNOV4002392, SYNOV4004823, SYNOV4007012, SYNOV4007215,
 10 T1ESE2000116, TBAES2001171, TBAES2001220, TBAES2001492,
 TBAES2001751, TBAES2002197, TBAES2003550, TBAES2005157,
 TBAES2005543, TBAES2006568, TBAES2007964, TCOLN2002278,
 TESOP1000127, TESOP2001818, TESOP2001849, TESOP2002451,
 TESOP2002489, TESOP2002950, TESOP2003273, TESOP2003753,
 15 TESOP2006060, TESOP2006068, TESOP2006670, TESOP2006746,
 TESOP2007688, TESOP2009555, TESTI1000330, TESTI1000390,
 TESTI1000491, TESTI2000443, TESTI2004700, TESTI2005376,
 TESTI2005986, TESTI2006041, TESTI2006643, TESTI2009474,
 TESTI2009511, TESTI2009812, TESTI2010400, TESTI2013381,
 20 TESTI2014843, TESTI2017727, TESTI2018838, TESTI2019042,
 TESTI2019648, TESTI2023254, TESTI2023599, TESTI2031529,
 TESTI2034749, TESTI2035107, TESTI2036513, TESTI2037643,
 TESTI2044833, TESTI2045920, TESTI2045983, TESTI2046347,
 TESTI2048465, TESTI2048603, TESTI2049206, TESTI2049246,
 25 TESTI2049277, TESTI2049422, TESTI2049452, TESTI2049469,
 TESTI2049576, TESTI2050681, TESTI2051279, TESTI2051488,
 TESTI2051543, TESTI2051806, TESTI2052211, TESTI2052698,
 TESTI2053242, TESTI2053526, TESTI4000068, TESTI4000250,
 TESTI4000462, TESTI4000530, TESTI4000970, TESTI4001201,
 30 TESTI4001206, TESTI4002290, TESTI4002647, TESTI4002703,
 TESTI4002878, TESTI4004200, TESTI4005628, TESTI4005857,
 TESTI4006112, TESTI4006219, TESTI4006326, TESTI4006412,
 TESTI4007203, TESTI4007373, TESTI4007404, TESTI4007489,
 TESTI4007775, TESTI4007799, TESTI4008007, TESTI4008219,
 35 TESTI4008573, TESTI4008816, TESTI4008935, TESTI4008993,
 TESTI4009022, TESTI4009034, TESTI4009123, TESTI4009215,

TESTI4009283, TESTI4009406, TESTI4009638, TESTI4010211,
TESTI4010377, TESTI4010713, TESTI4010789, TESTI4010817,
TESTI4010928, TESTI4011118, TESTI4011161, TESTI4011246,
TESTI4011505, TESTI4012086, TESTI4012329, TESTI4012556,
5 TESTI4012702, TESTI4013675, TESTI4013685, TESTI4013735,
TESTI4014159, TESTI4014306, TESTI4014445, TESTI4014694,
TESTI4015263, TESTI4015293, TESTI4015471, TESTI4015600,
TESTI4015646, TESTI4015681, TESTI4015688, TESTI4016551,
TESTI4016812, TESTI4016882, TESTI4017001, TESTI4017137,
10 TESTI4017254, TESTI4017848, TESTI4017961, TESTI4018382,
TESTI4018555, TESTI4018806, TESTI4019299, TESTI4019417,
TESTI4020806, TESTI4020920, TESTI4021294, TESTI4021456,
TESTI4021491, TESTI4022936, TESTI4023555, TESTI4023942,
TESTI4024344, TESTI4024907, TESTI4025731, TESTI4026079,
15 TESTI4026192, TESTI4026295, TESTI4026700, TESTI4026762,
TESTI4027516, TESTI4028612, TESTI4028809, TESTI4028983,
TESTI4029370, TESTI4029671, TESTI4030603, TESTI4030669,
TESTI4032895, TESTI4033433, TESTI4033690, TESTI4034212,
TESTI4034432, TESTI4035602, TESTI4035637, TESTI4036042,
20 TESTI4037066, TESTI4037188, TESTI4038156, TESTI4038223,
TESTI4038258, TESTI4038339, TESTI4038492, TESTI4038818,
TESTI4039038, TESTI4039086, TESTI4040800, TESTI4040939,
TESTI4040956, TESTI4041099, TESTI4041143, TESTI4041519,
TESTI4041624, TESTI4041903, TESTI4041954, TESTI4042098,
25 TESTI4042444, TESTI4043129, TESTI4043203, TESTI4043551,
TESTI4043947, TESTI4044035, TESTI4044084, TESTI4044123,
TESTI4044234, TESTI4044296, TESTI4044682, TESTI4045312,
TESTI4046253, TESTI4046282, TESTI4046884, TESTI4047069,
THYMU1000600, THYMU2000932, THYMU2001090, THYMU2003397,
30 THYMU2004693, THYMU2005190, THYMU2007179, THYMU2008282,
THYMU2009134, THYMU2016204, THYMU2016523, THYMU2019587,
THYMU2023967, THYMU2025707, THYMU2028978, THYMU2029688,
THYMU2030226, THYMU2030264, THYMU2030637, THYMU2030796,
THYMU2031218, THYMU2031341, THYMU2031368, THYMU2031579,
35 THYMU2031847, THYMU2031890, THYMU2032080, THYMU2032358,
THYMU2032696, THYMU2033070, THYMU2033787, THYMU2034647,

THYMU2035101, THYMU2035388, THYMU2035400, THYMU2036058,
 THYMU2036252, THYMU2036265, THYMU2036653, THYMU2037081,
 THYMU2037208, THYMU2037965, THYMU2038189, THYMU2038615,
 THYMU2038636, THYMU2038739, THYMU2039350, THYMU2039411,
 5 THYMU2039989, THYMU2040140, THYMU2040824, THYMU2041007,
 THYMU2041252, THYMU3000133, THYMU3000655, THYMU3000826,
 THYMU3001472, THYMU3002452, THYMU3002661, THYMU3003763,
 THYMU3006132, THYMU3006371, THYMU3006485, THYMU3006963,
 THYMU3008171, THYMU3009255, TKIDN2003044, TKIDN2004386,
 10 TKIDN2005934, TKIDN2005947, TKIDN2007667, TKIDN2009641,
 TKIDN2010934, TKIDN2012824, TKIDN2013287, TKIDN2014757,
 TKIDN2015263, TKIDN2015788, TKIDN2016309, TLIVE2002338,
 TLIVE2003197, TLIVE2003970, TLIVE2004601, TLIVE2005180,
 TLIVE2006236, TLIVE2006529, TLIVE2007132, TLIVE2007528,
 15 TLIVE2007816, TLIVE2008083, TLIVE2009541, TOVAR2000649,
 TOVAR2001730, TOVAR2002549, TRACH2001443, TRACH2003070,
 TRACH2004170, TRACH2005066, TRACH2005811, TRACH2006049,
 TRACH2019248, TRACH2019473, TRACH2021398, TRACH2022042,
 TRACH2023306, TRACH2025344, TRACH2025749, TRACH2025932,
 20 TRACH3000342, TRACH3000586, TRACH3002192, TRACH3002866,
 TRACH3002871, TRACH3003379, TRACH3004068, TRACH3004537,
 TRACH3004840, TRACH3005479, TRACH3006038, TRACH3006228,
 TRACH3006470, TRACH3006889, TRACH3008093, TRACH3008535,
 TRACH3034762, TRACH3035235, TRACH3035482, TRACH3036207,
 25 TRACH3036309, TRACH3036456, TSTOM1000135, TSTOM2002672,
 TUTER1000122, TUTER2001387, UTERU1000024, UTERU1000148,
 UTERU1000249, UTERU2000649, UTERU2001409, UTERU2002410,
 UTERU2002841, UTERU2005004, UTERU2007520, UTERU2014678,
 UTERU2019681, UTERU2020491, UTERU2021163, UTERU2021380,
 30 UTERU2022981, UTERU2023039, UTERU2023175, UTERU2023651,
 UTERU2023712, UTERU2024002, UTERU2024656, UTERU2030213,
 UTERU2030280, UTERU2031084, UTERU2031521, UTERU2031703,
 UTERU2033375, UTERU2033382, UTERU2035114, UTERU2035331,
 UTERU2035503, UTERU2037361, UTERU2037577, UTERU2038251,
 35 UTERU3000226, UTERU3001542, UTERU3001766, UTERU3002218,
 UTERU3002667, UTERU3002731, UTERU3002768, UTERU3002993,

UTERU3003465, UTERU3003523, UTERU3004523, UTERU3004616,
 UTERU3004709, UTERU3005049, UTERU3005205, UTERU3005230,
 UTERU3005460, UTERU3005970, UTERU3006008, UTERU3007134,
 UTERU3007913, UTERU3008660, UTERU3009259, UTERU3009517,
 5 UTERU3015086, UTERU3018081, UTERU3018154, UTERU3018616,
 UTERU3018711

Likewise, so far no information suggesting the function of
 the 72 clones shown below has been provided by the homology
 search. The functions of these clones may be clarified when an
 10 updated database becomes available in future. Clone names are
 shown below.

3NB692004724, ADRGL2000056, BLADE2000579, BRACE2037299,
 BRACE2043105, BRACE3003026, BRACE3003053, BRACE3005107,
 BRACE3015829, BRAMY2041434, BRAWH2009393, BRAWH2010552,
 15 BRCAN2014229, BRHIP2002722, BRHIP3000017, BRTHA2002133,
 BRTHA2002702, BRTHA2010033, BRTHA2013426, BRTHA3000296,
 CTONG2004000, CTONG2015596, CTONG2020374, CTONG2024031,
 CTONG3002552, CTONG3003598, CTONG3009287, HCASM2003357,
 HCHON2000743, HLUNG2016862, IMR322001879, IMR322007078,
 20 NT2RI3002557, NT2RI3005928, NT2RI3007167, NT2RP8000521,
 OCBBF2006987, OCBBF3003761, OCBBF3004972, PLACE7000333,
 PUAEN2006335, SKMUS2003194, SPLEN2033490, STOMA2004893,
 SYNOV2006620, SYNOV4005739, TESTI1000266, TESTI2008901,
 TESTI2035981, TESTI2037830, TESTI4001984, TESTI4008058,
 25 TESTI4011829, TESTI4013602, TESTI4015012, TESTI4025865,
 TESTI4028958, TESTI4029348, TESTI4029528, TESTI4029690,
 TESTI4036767, TESTI4038721, THYMU2032976, THYMU3000360,
 THYMU3001428, TRACH1000212, UTERU2004299, UTERU2035978,
 UTERU3000402, UTERU3014791, UTERU3015412, UTERU3017176

30

EXAMPLE 7

Functional categorization based on a functional domain search for deduced amino acid sequences

Domains and motifs are minimal functional structures of
 35 polypeptides. The structure of a polypeptide is constituted by
 a collection of such minimal structures, and thus the overall

function of a polypeptide is ensured by the resulting structure. Thus, the overall function of a polypeptide can be predicted relatively accurately using data obtained by analysis of domain and motif structures. Furthermore, classifying these results
 5 into functional categories in a database allows clones comprising specific functions to be easily selected. Thus, such databases are highly useful in the functional analysis of each clone.

Pfam was used to undertake a domain search for the amino
 10 acid sequences deduced from the full-length nucleotide sequences (see Example 5). Based on these results, the proteins encoded by clones 664 and 250 were categorized and their functions predicted. This was performed by referring to domain and motif names, accession numbers for hit data, and detailed descriptions
 15 in Pfam (<http://www.sanger.ac.uk/Software/Pfam/index.shtml>) as well as functional categorizations in PROSITE (<http://www.expasy.ch/cgi-bin/prosite-list.pl>).

A clone predicted to belong to the category of secretory and/or membrane protein means a clone having domains and motifs,
 20 for example, seven-transmembrane receptor, pancreatic hormone peptides, ion transport protein, or fibroblast growth factor, which suggest receptor, ion channel, hormone, or growth factor.

A clone predicted to belong to the category of glycoprotein-related protein means a clone having domains and
 25 motifs, for example, immunoglobulin domain or glycosyl transferases group 1, which suggest involvement in glycobiology, such as glycoprotein or glycosyltransferase.

A clone predicted to belong to the category of signal transduction-related protein means a clone having domains and
 30 motifs, for example, eukaryotic protein kinase domain, protein phosphatase 2C, or Ras family, which suggest protein kinase, dephosphoenzyme, SH2 domain, or small G protein.

A clone predicted to belong to the category of transcription-related protein means a clone having domains and
 35 motifs, for example, bZIP transcription factor, Zinc finger, or

C2H2 type, which suggest transcription factor or transcription-controlling protein.

5 A clone predicted to belong to the category of disease-related protein means a clone having domains and motifs, for example, Wilm's tumor protein or von Hippel-Lindau disease tumor suppressor protein, which suggest proteins with disease-specific expression or that promote or suppress expression, depending on the disease.

10 A clone predicted to belong to the category of enzyme and/or metabolism-related protein means a clone having domains and motifs, for example, aldehyde dehydrogenase family, chitin synthase, or glucose-6-phosphate dehydrogenase, which suggest transferase, synthase, or hydrolase.

15 A clone predicted to belong to the category of cell division- and/or cell proliferation-related protein means a clone having domains and motifs, for example, cyclin or cell division protein, which suggest cyclin or cell proliferation-controlling protein.

20 A clone predicted to belong to the category of cytoskeleton-related protein means a clone having domains and motifs, for example, actin, fibronectin type I domain, or kinesin motor domain, which suggest actin, kinesin, or fibronectin.

25 A clone predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein means a clone having domains and motifs, for example, hepatitis C virus RNA dependent RNA polymerase or DEAD/DEAH box helicase, which suggest splicing factor, RNA synthase, or helicase.

30 A clone predicted to belong to the category of protein synthesis and/or transport-related protein means a clone having domains and motifs, for example, translation initiation factor SUI1, ubiquitin family, or ribosomal protein L16, which suggest translation-related protein, ubiquitin-related protein, or ribosomal protein.

35 A clone predicted to belong to the category of cellular defense-related protein means a clone having domains and motifs,

for example, HSP90 protein or DNA mismatch repair protein, which suggest chaperonin or DNA repair protein.

A clone predicted to belong to the category of development- and/or differentiation-related proteins means a clone having
5 domains and motifs, for example, floricaula / leafy protein, which suggest organogenesis-related protein.

A clone predicted to belong to the category of DNA- and/or RNA-binding protein means a clone having domains and motifs, for example, transcription factor WhiB, B-box zinc finger, or tRNA
10 synthetases class I (C), which suggest DNA/RNA-relating enzyme group including transcription factor and DNA ligase or Zinc-finger related protein.

A clone predicted to belong to the category of ATP- and/or GTP-binding protein means a clone having domains and motifs, for
15 example, E1-E2 ATPase or Ras family, which suggest ATP/GTP-related enzyme group including ATPase or G protein.

During this functional categorization, if a clone met every criterion of multiple categories as described above, it was grouped into multiple categories. However, the function of a
20 polypeptide is not limited to these functional categories.

The clones predicted to belong to the category of secretory protein and/or membrane protein are the following 64 clones.

ASTRO2014923, ASTRO3000301, BRACE2005457, BRACE2014306,
BRACE3001391, BRACE3014005, BRALZ2016085, BRAMY2040592,
25 BRAWH2014662, BRHIP2004814, BRHIP3024118, BRTHA3002427,
BRTHA3017848, BRTHA3018656, CTONG2009423, CTONG2013178,
D3OST2002648, FEBRA2007708, FEBRA2008311, HCHON2001084,
HCHON2001712, HCHON2004531, HCHON2005921, HSYRA2009102,
KIDNE1000064, KIDNE2000832, NT2RI3006376, OCBBF2031167,
30 OCBBF2035110, OCBBF2038317, PEBLM2002594, PERIC1000147,
PERIC2009086, PROST1000184, SPLEN2012624, SPLEN2031547,
SPLEN2033098, SPLEN2036326, TESTI1000257, TESTI1000390,
TESTI2000644, TESTI2002036, TESTI2002928, TESTI2006648,
TESTI2024567, TESTI2034520, TESTI4000014, TESTI4000724,
35 TESTI4007163, TESTI4009881, TESTI4028880, THYMU2009425,
THYMU2011548, THYMU2033079, THYMU2041015, TLIVE2000023,

TLIVE2003381, TLIVE2007132, TRACH2006387, TRACH2007059,
TRACH3004786, UTERU3000645, UTERU3004616, UTERU3006308

The following 23 clones are also predicted to belong to the category of secretory protein and/or membrane protein.

5 BRACE2029396, BRACE3005107, BRACE3010076, BRAMY2019111,
BRAMY3004800, BRHIP3000017, FCBBF1000509, HCHON2000508,
HEART2009680, IMR322013396, NT2RI2009583, NT2RI3000174,
NT2RP8000521, OCBBF2030116, TESTI2029252, TESTI4013894,
TESTI4032112, TESTI4041086, THYMU2035710, TKIDN2012771,
10 TRACH3000420, UTERU2004299, TESTI4038779

The clones predicted to belong to the category of glycoprotein-related protein are the following 77 clones.

ADIPS2000088, BRACE2043142, BRACE2046295, BRACE3014005,
BRAMY2005052, BRAMY4000277, BRAWH2007658, BRCAN2006063,
15 BRSTN2004863, BRTHA3017589, BRTHA3017848, COLON2000568,
COLON2004478, CTONG2000042, CTONG2013178, CTONG2024206,
CTONG2024749, CTONG2025496, CTONG3001370, CTONG3003737,
D3OST2002182, FEBRA2007708, HCHON2001084, HCHON2002676,
HCHON2004531, HEART2001680, HLUNG2014262, LYMPB2000083,
20 NESOP2001433, NOVAR2001108, NT2RI3006171, NT2RI3006340,
NT2RI3007978, NT2RP7014005, OCBBF2010140, OCBBF2037598,
PLACE5000171, PLACE6012574, PLACE7006051, PUAEN2009174,
SMINT2002743, SMINT2010076, SMINT2011888, SMINT2015787,
SPLEN2001599, SPLEN2015267, SPLEN2021701, SPLEN2037722,
25 STOMA2004294, SYNOV3000231, SYNOV3000302, SYNOV4007521,
SYNOV4007671, TBAES2003550, TESOP2005485, TESTI2005610,
TESTI4006326, TESTI4021294, THYMU2005303, THYMU2019210,
THYMU2023711, THYMU2027695, TRACH2007059, TRACH2022425,
TRACH2022553, TRACH2022649, TRACH3002168, TRACH3005479,
30 TRACH3005549, TRACH3006470, TRACH3035526, TRACH3036609,
TSTOM2000442, UTERU2026090, UTERU3004616, UTERU3004992,
UTERU3006308

The following eight clones are also predicted to belong to the category of glycoprotein-related protein.

35 BRAWH2006395, BRHIP3000017, NT2RI3007443, OCBBF3002654,
TESTI2039060, TESTI4013894, TESTI4031745, TLIVE2001684

The clones predicted to belong to the category of signal transduction-related protein are the following 116 clones.

BLADE2007958, BNGH42007788, BRACE1000258, BRACE2008594,
 BRACE2041009, BRACE3001391, BRACE3006872, BRACE3011421,
 5 BRACE3024073, BRACE3027326, BRALZ2014484, BRAMY2001473,
 BRAMY2036567, BRAMY2042760, BRAMY2047751, BRAMY3001794,
 BRAMY3002803, BRAMY3005091, BRAMY3008466, BRAMY4000095,
 BRAWH3001326, BRAWH3002821, BRAWH3005912, BRCAN2002856,
 BRCAN2009432, BRCAN2016619, BRCAN2024451, BRCAN2028355,
 10 BRHIP2000819, BRHIP2005932, BRHIP3008405, BRHIP3025161,
 BRSSN2000684, BRSSN2004719, BRSTN2008418, BRSTN2013741,
 BRTHA3009037, BRTHA3013884, COLON2001721, CTONG2006798,
 CTONG3000084, CTONG3000657, CTONG3002127, D3OST3000169,
 DFNES2001108, DFNES2011499, FCBBF3007540, HCASM2001301,
 15 HCHON2000028, HCHON2006250, HHDPC1000118, HLUNG2001996,
 HLUNG2002465, KIDNE2001847, MESAN2006563, NHNPC2001816,
 NT2NE2003252, NT2RI2005166, NT2RI3000622, NT2RI3006673,
 NT2RP7005118, NT2RP7005529, NT2RP7009147, NT2RP7013795,
 NT2RP8000483, NTONG2003852, OCBBF2004826, OCBBF2004883,
 20 OCBBF2007028, OCBBF2008770, OCBBF2022351, OCBBF2037340,
 OCBBF2037547, PEBLM2004666, PLACE7008431, PROST2016462,
 PROST2018511, PUAEN2002616, PUAEN2005930, PUAEN2006328,
 PUAEN2009852, SYNOV2021320, TESOP2000801, TESOP2001166,
 TESTI2006648, TESTI2026505, TESTI2050137, TESTI2052693,
 25 TESTI4000079, TESTI4010713, TESTI4010831, TESTI4011956,
 TESTI4016882, TESTI4019843, TESTI4028059, THYMU2032014,
 THYMU2037226, THYMU2038615, THYMU3001234, THYMU3006172,
 THYMU3008436, TLIVE2009541, TRACH2009310, TRACH2021398,
 TRACH2023299, TRACH2025535, TRACH3009455, TRACH3034731,
 30 TSTOM2000553, UTERU1000337, UTERU2005621, UTERU2025025,
 UTERU2036089, UTERU2038251, UTERU3003523, UTERU3007419

The following 38 clones are also predicted to belong to the category of signal transduction-related protein.

BLADE2000579, BRACE3001058, BRACE3003053, BRACE3009127,
 35 BRAMY2040159, BRAMY3004800, BRAWH3009017, BRCAN2014229,
 BRHIP2026877, BRTHA2013610, CTONG3004550, FEBRA2001990,

FEBRA2008692, HCHON2000508, MESAN2001770, NT2RI2005772,
 NT2RI3007443, NTONG2008093, OCBBF2005433, OCBBF2024284,
 OCBBF2034637, OCBBF3002654, TESOP2000390, TESTI2025924,
 TESTI2049956, TESTI4000319, TESTI4005317, TESTI4021482,
 5 TESTI4025268, TESTI4031745, THYMU2004139, THYMU2031249,
 TRACH2024408, UTERU2008040, UTERU2028734, UTERU3000402,
 UTERU3000738, UTERU3015412

The clones predicted to belong to the category of transcription-related protein are the following 27 clones.

10 BRACE2006319, BRACE3013576, BRAMY2030109, BRAWH3005912,
 BRHIP3025161, CORDB1000140, CTONG1000467, HEART2001756,
 IMR322000127, IMR322000917, KIDNE1000064, NOVAR2000136,
 NT2NE2006531, NT2RI3007158, NT2RP7000466, OCBBF2036743,
 OCBBF3009279, PLACE6019385, TESTI2026505, TESTI2044796,
 15 TESTI2050987, TESTI4017001, TESTI4019140, TESTI4034912,
 THYMU2035735, TRACH2025749, TRACH3004840

The following 88 clones are also predicted to belong to the category of transcription-related protein.

BRACE2003609, BRACE3001058, BRACE3001113, BRACE3003026,
 20 BRAMY2035070, BRAMY2035449, BRAMY2035718, BRAMY2039341,
 BRAMY2045471, BRAWH3007441, BRHIP2017553, BRSTN2013354,
 CERVX2002013, CTONG1000113, CTONG2003348, CTONG2020374,
 CTONG2020378, CTONG2020411, CTONG2024031, CTONG2028758,
 CTONG3001501, CTONG3004726, DFNES2011192, FCBBF3027854,
 25 FEBRA2014122, FEBRA2027609, HCASM2003018, HCASM2003099,
 HCHON2000508, HCHON2000743, HCHON2004858, HSYRA2005628,
 MESAN2014412, MESAN2015501, NT2RI2008952, NT2RI2018448,
 NT2RI3000174, NT2RI3001132, NT2RI3002557, NT2RI3007167,
 NT2RI3007443, OCBBF2008144, OCBBF2009583, OCBBF2011669,
 30 OCBBF2019684, OCBBF2020048, OCBBF2024284, OCBBF2032274,
 OCBBF3000167, OCBBF3003761, SPLEN2016135, SPLEN2016781,
 SPLEN2036702, SYNOV2021953, SYNOV4002744, TESOP2001796,
 TESOP2005199, TESOP2006398, TESTI2008901, TESTI2034251,
 TESTI2037830, TESTI4000183, TESTI4000214, TESTI4006473,
 35 TESTI4008058, TESTI4008302, TESTI4013365, TESTI4014801,
 TESTI4015442, TESTI4017714, TESTI4025494, TESTI4025547,

TESTI4028938, TESTI4029348, TESTI4031745, TESTI4032090,
 THYMU2006001, THYMU2028739, THYMU2031139, THYMU3001428,
 TRACH2007483, TRACH3000134, TRACH3003832, TRACH3007866,
 UTERU3001053, UTERU3014791, UTERU3017176, TESTI4038779

5 The clones predicted to belong to the category of enzyme
 and/or metabolism-related protein are the following 176 clones.

3NB692002806, ASTRO1000009, BLADE2005036, BLADE2008539,
 BRACE2005457, BRACE2008594, BRACE2014475, BRACE2018762,
 BRACE2035381, BRACE2043142, BRACE2047011, BRACE3004058,
 10 BRACE3007625, BRACE3009708, BRACE3011421, BRACE3015262,
 BRACE3024073, BRACE3025630, BRACE3027478, BRAMY2047746,
 BRAMY2047751, BRAMY3002803, BRAMY3004919, BRAMY3005091,
 BRAMY4000095, BRAWH2010000, BRAWH2014414, BRAWH2014662,
 BRAWH2016702, BRAWH3002821, BRAWH3003727, BRCAN2021028,
 15 BRCAN2024451, BRCAN2028355, BRCOC2003213, BRHIP2004359,
 BRHIP2026288, BRHIP3008183, BRHIP3025161, BRHIP3027137,
 BRSSN2000684, BRSTN2000872, BRSTN2004863, BRSTN2004987,
 BRTHA2012980, BRTHA3002401, BRTHA3008778, BRTHA3009037,
 BRTHA3009090, BRTHA3015815, BRTHA3016917, BRTHA3017848,
 20 BRTHA3018656, COLON2001721, CTONG2004062, CTONG2006798,
 CTONG2013178, CTONG2028124, CTONG3002127, CTONG3005325,
 CTONG3005648, D3OST2002182, FCBBF3004502, FCBBF3013307,
 FEBRA2007708, FEBRA2008468, FEBRA2026984, HCASM2001301,
 HCASM2002918, HCHON2002676, HCHON2004007, HCHON2004531,
 25 HEART2006131, HHDPC1000118, HLUNG1000017, KIDNE2000832,
 KIDNE2006580, MESAN2012054, NOVAR2000136, NT2NE2003252,
 NT2NE2006909, NT2RI2004618, NT2RI3004510, NT2RI3006673,
 NT2RI3007978, NT2RI3008652, NT2RP7010599, NT2RP7014005,
 NT2RP7017474, NTONG2000413, OCBBF2004826, OCBBF2006058,
 30 OCBBF2019823, OCBBF2025527, OCBBF2031167, OCBBF2037340,
 OCBBF2037547, OCBBF2037638, PERIC2009086, PLACE7002641,
 PLACE7008431, PROST2017367, PUAEN2007044, PUAEN2009795,
 PUAEN2009852, SPLEN2010912, SPLEN2015679, SPLEN2030335,
 SYNOV4002392, SYNOV4002883, TBAES2003550, TESOP2000801,
 35 TESOP2004114, TESOP2009121, TESTI1000257, TESTI1000545,
 TESTI2002618, TESTI2006648, TESTI2040018, TESTI2049469,

TESTI2053621, TESTI4000288, TESTI4000349, TESTI4001148,
 TESTI4001527, TESTI4001561, TESTI4002552, TESTI4006819,
 TESTI4007382, TESTI4007810, TESTI4008429, TESTI4010713,
 TESTI4010851, TESTI4012448, TESTI4012679, TESTI4013369,
 5 TESTI4016925, TESTI4018835, TESTI4020920, TESTI4021478,
 TESTI4022716, TESTI4026510, TESTI4028059, TESTI4029836,
 TESTI4032895, TESTI4034432, TESTI4036909, THYMU2006420,
 THYMU3000133, THYMU3001379, THYMU3004835, THYMU3006172,
 THYMU3008436, TLIVE2002336, TRACH2006387, TRACH2009310,
 10 TRACH2019473, TRACH2022425, TRACH2023299, TRACH3005479,
 TRACH3006470, TRACH3007479, TRACH3008093, TRACH3008629,
 TRACH3036193, TSTOM2000553, UTERU2005621, UTERU2017762,
 UTERU2025025, UTERU2033375, UTERU3000828, UTERU3001240,
 UTERU3001585, UTERU3003116, UTERU3005460, UTERU3005907
 15 The following 89 clones are also predicted to belong to the
 category of enzyme and/or metabolism-related protein.
 BLADE2000579, BRACE2039823, BRACE3003053, BRAMY2038516,
 BRAMY2040159, BRAWH1000369, BRCAN2003070, BRCAN2014229,
 BRCOC2019841, BRHIP2005724, BRHIP2008389, BRHIP2026877,
 20 BRHIP3000240, BRHIP3026052, BRTHA2002133, BRTHA2002702,
 BRTHA2007060, BRTHA2010033, BRTHA2013426, BRTHA2013610,
 BRTHA2017364, BRTHA2018011, BRTHA3000296, CTONG2004000,
 CTONG2016942, CTONG2020374, CTONG2024031, CTONG3002552,
 CTONG3003598, CTONG3004550, FCBBF1000509, FEBRA2008692,
 25 HCASM2002754, HCASM2003099, HCASM2003357, HLUNG2015418,
 HLUNG2015548, IMR322013731, MESAN2005303, NT2RI2005772,
 NT2RI2008952, NT2RI3000174, NT2RI3007443, NT2RP7008435,
 NTONG2008093, OCBBF2006987, OCBBF2034637, OCBBF3002654,
 PLACE7000333, PLACE7000502, PROST2000452, SPLEN2039311,
 30 STOMA2003158, SYNOV2013637, TESOP2000390, TESTI2015626,
 TESTI2025924, TESTI2026647, TESTI2035981, TESTI2036288,
 TESTI2039060, TESTI2049956, TESTI4000155, TESTI4001984,
 TESTI4006473, TESTI4010382, TESTI4011072, TESTI4014801,
 TESTI4017714, TESTI4021482, TESTI4025547, TESTI4025865,
 35 TESTI4026207, TESTI4028958, TESTI4029690, TESTI4031745,
 TESTI4032090, THYMU2004139, THYMU2031139, THYMU2031249,

THYMU2040925, TKIDN2012771, TLIVE2002046, TLIVE2007607,
 TRACH3000420, TRACH3007866, UTERU2019534, UTERU2028734,
 UTERU3000738

5 The clones predicted to belong to the category of cell
 division and/or cell proliferation-related protein are the
 following ten clones.

BRAWH2001940, CTONG3001123, HCHON2001217, PROST2008993,
 TBAES2001171, TESTI4021294, TESTI4035498, UTERU1000024,
 UTERU3002993, UTERU3003523

10 The following three clones are also predicted to belong to
 the category of cell division and/or cell proliferation-related
 protein.

BRACE2029396, BRAWH2010552, TESTI4013365

15 The clones predicted to belong to the category of
 cytoskeleton-related protein are the following 36 clones.

BRACE2026836, BRACE2045300, BRAWH3000314, BRSTN2004863,
 BRTHA2004978, BRTHA3003449, BRTHA3005046, COLON2002520,
 CORDB2000541, CTONG3002674, FCBBF3012288, HCHON2001577,
 HLUNG2017350, HSYRA2005456, HSYRA2009075, NT2RI3006340,
 20 NT2RI3006673, NT2RI3007291, OCBBF2037598, PLACE5000282,
 TESTI2003347, TESTI2034767, TESTI4000288, TESTI4007778,
 TESTI4009160, TESTI4018886, TESTI4030603, TESTI4034632,
 TESTI4035063, THYMU1000496, THYMU2008725, TRACH2005811,
 TRACH2007059, UTERU2007724, UTERU2035745, UTERU3004616

25 The following four clones are also predicted to belong to
 the category of cytoskeleton-related protein.

NT2RI2005772, OCBBF2006987, SPLEN2030847, TESTI4026207

30 The clones predicted to belong to the category of nuclear
 protein and/or RNA synthesis-related protein are the following
 20 clones.

BRACE3024073, BRAWH2001940, BRCOC2003213, BRSTN2004987,
 BRTHA3016917, CTONG3009028, FCBBF3013307, FEBRA2026984,
 SPLEN2010912, TBAES2001171, TESTI2040018, TESTI4019566,
 TESTI4022716, TESTI4026510, TESTI4036909, THYMU3000133,
 35 TRACH2023299, TRACH3036193, UTERU1000024, UTERU3002993

The following eleven clones are also predicted to belong to the category of nuclear protein and/or RNA synthesis-related protein.

BRACE3003053, BRCAN2002473, BRTHA2017364, NT2RI2008952,
 5 NT2RI3000174, TESTI2026647, TESTI2035981, TESTI4000155,
 TESTI4006473, TESTI4010382, TESTI4025547

The clones predicted to belong to the category of protein synthesis and/or transport-related protein are the following 29 clones.

10 BRACE2014306, BRACE3008720, BRAWH3000491, BRCAN2009432,
 BRHIP2000920, BRTHA3013884, CTONG2013178, HCHON2004531,
 HLUNG1000017, HLUNG2013851, HSYRA2005496, NT2NE2006909,
 NT2RI3006340, OCBBF2007068, OCBBF2031167, PUAEN2009795,
 TBAES2001229, TBAES2004055, TESTI2051867, TESTI4000014,
 15 TESTI4000349, TESTI4009608, TESTI4010851, TESTI4034632,
 TRACH3007479, TRACH3036193, UTERU2017762, UTERU2019940,
 UTERU2033375

The following 17 clones are also predicted to belong to the category of protein synthesis and/or transport-related protein.

20 BLADE2000579, BRACE3003053, BRCAN2003070, BRTHA2018011,
 BRTHA3000296, CTONG2016942, MESAN2005303, NT2RI3002557,
 NT2RP7008435, PERIC2007068, PLACE7000502, PROST2000452,
 TESTI4001984, TESTI4017714, THYMU2004284, TRACH3000420,
 TRACH3007866

25 The clones predicted to belong to the category of cellular defense-related protein are the following four clones.

BRTHA2015878, CTONG3000084, NT2RI3002842, PEBLM2004666

The following three clones are also predicted to belong to the category of cellular defense-related protein.

30 BRCAN2002473, NT2RI3007167, TRACH3002561

The clone predicted to belong to the category of development and/or differentiation-related protein is the following one clone.

TESTI4014924

35 The clones predicted to belong to the category of DNA-binding and/or RNA-binding protein are the following 67 clones.

BRACE2006319, BRACE2047011, BRACE3004150, BRACE3013576,
 BRACE3024073, BRAMY2030109, BRAWH3005912, BRCAN2002562,
 BRCOC2003213, BRHIP2021615, BRHIP3008183, BRHIP3025161,
 BRSTN2004987, BRTHA2018707, BRTHA3016917, CORDB1000140,
 5 CTONG1000467, CTONG3000084, CTONG3003972, CTONG3008831,
 CTONG3009028, FCBBF3013307, FEBRA2026984, HEART2001756,
 HLUNG2013851, IMR322000127, IMR322000917, KIDNE1000064,
 NT2NE2006531, NT2RI3003382, NT2RI3007158, NT2RP7000466,
 NT2RP7004123, OCBBF2036743, OCBBF3009279, PLACE6019385,
 10 SPLEN2006122, SPLEN2010912, TESOP2009121, TESTI1000390,
 TESTI2014716, TESTI2026505, TESTI2040018, TESTI2044796,
 TESTI2050987, TESTI4007810, TESTI4009374, TESTI4011745,
 TESTI4012679, TESTI4017001, TESTI4019140, TESTI4019566,
 TESTI4022716, TESTI4026510, TESTI4034432, TESTI4034912,
 15 TESTI4036909, THYMU2035319, THYMU2035735, THYMU3000133,
 TLIVE2002336, TRACH2023299, TRACH2025749, TRACH3004840,
 TRACH3036193, UTERU2026025, UTERU3009490

The following 112 clones are also predicted to belong to
 the category of DNA-binding and/or RNA-binding protein.

20 BLADE2006830, BRACE2003609, BRACE3001058, BRACE3001113,
 BRACE3003026, BRACE3003053, BRACE3010076, BRAMY2035070,
 BRAMY2035449, BRAMY2039341, BRAMY2045471, BRAWH1000369,
 BRAWH3007441, BRHIP2017553, BRSTN2013354, BRTHA2002133,
 BRTHA2002702, BRTHA2017364, BRTHA2017972, CERVX2002013,
 25 CTONG1000113, CTONG2003348, CTONG2015596, CTONG2020374,
 CTONG2020378, CTONG2020411, CTONG2024031, CTONG2028758,
 CTONG3001501, CTONG3004726, DFNES2011192, FCBBF1000509,
 FCBBF3027854, FEBRA2014122, FEBRA2027609, HCASM2003018,
 HCASM2003099, HCASM2009424, HCHON2000508, HCHON2000743,
 30 HCHON2004858, HSYRA2005628, IMR322013731, MESAN2014412,
 MESAN2015501, NT2RI2008952, NT2RI2018448, NT2RI2027157,
 NT2RI3000174, NT2RI3001132, NT2RI3002557, NT2RI3007167,
 NT2RI3007443, OCBBF2006987, OCBBF2008144, OCBBF2009583,
 OCBBF2011669, OCBBF2019684, OCBBF2020048, OCBBF2024284,
 35 OCBBF2032274, OCBBF2034637, OCBBF3000167, OCBBF3003761,
 PERIC2007068, SPLEN2016135, SPLEN2016781, SPLEN2036702,

STOMA2003158, SYNOV2021953, SYNOV4002744, TESOP2001796,
 TESOP2005199, TESOP2006398, TESTI2008901, TESTI2026647,
 TESTI2034251, TESTI2035981, TESTI2037830, TESTI4000155,
 TESTI4000183, TESTI4000214, TESTI4006473, TESTI4008058,
 5 TESTI4008302, TESTI4010382, TESTI4013365, TESTI4014801,
 TESTI4015442, TESTI4017714, TESTI4025494, TESTI4025547,
 TESTI4026207, TESTI4028938, TESTI4028958, TESTI4029348,
 TESTI4031745, TESTI4032090, THYMU2006001, THYMU2028739,
 THYMU2031139, THYMU3001428, TKIDN2012771, TLIVE2007607,
 10 TRACH2007483, TRACH3000134, TRACH3003832, TRACH3007866,
 UTERU3001053, UTERU3014791, UTERU3017176, TESTI4038779

The clones predicted to belong to the category of ATP binding and/or GTP-binding protein are the following 28 clones.

BRACE3008720, BRACE3009708, BRAMY2047746, BRAMY3004919,
 15 BRAWH2014662, BRAWH2016702, BRCAN2009432, BRCAN2024451,
 BRSTN2013741, BRTHA3008778, BRTHA3009090, CTONG2004062,
 CTONG2028124, HCHON2004007, OCBBF2037340, SPLEN2030335,
 TESTI4000288, TESTI4001148, TESTI4002552, TESTI4008429,
 TESTI4018835, TESTI4021478, TESTI4029836, THYMU2036459,
 20 THYMU3001379, TRACH2001549, UTERU3000828, UTERU3001240

The following eight clones are also predicted to belong to the category of ATP binding and/or GTP-binding protein.

BRCAN2014229, BRHIP2008389, CTONG3004550, FEBRA2001990,
 IMR322013396, IMR322013731, MESAN2001770, TESTI4000319

25 Although the 208 clones described below have hit data in Pfam, it remains unclear as to which of the above-described categories each of these clones belong. However, if data for proteins having a similar domain or motif are accumulated and their functions clarified in more detail, in the future these
 30 clones can be classified into any of the above-described categories. The Clone Name and Functional Domain Name are indicated as "Clone Name//Functional Domain Name". When a clone had hit data in multiple functional domains, all data were represented, with each marked with a double slash (/).

In addition, even when a clone had multiple hit data in an identical functional domain, these data are fully represented without abridgment.

- 3NB692002685 //R3H domain
- 5 3NB692008729 //Hr1 repeat motif
- ASTRO2003960 //F-box domain.
- BNGH42003570 //EB module// Furin-like cysteine rich region//
Thrombospondin type 1 domain
- BRACE2010489 //LysM domain
- 10 BRACE2015314 //Bacterial mutT protein
- BRACE2016981 //Fanconi anaemia group C protein// Bacterial
flagellin N-terminus
- BRACE2027258 //Ank repeat// Ank repeat// Ank repeat// Ank
repeat// Ank repeat
- 15 BRACE2030341 //Kinase associated domain 1
- BRACE2035441 //Spectrin repeat// Spectrin repeat// Spectrin
repeat
- BRACE2038329 //TS-N domain// UBA domain
- BRACE2042550 //Thrombospondin type 1 domain// Trypsin Inhibitor
- 20 like cysteine rich domain// von Willebrand factor type C
domain// Thrombospondin type 1 domain
- BRACE2044286 //CRAL/TRIO domain.// Spectrin repeat
- BRACE3000071 //Ank repeat// Ank repeat// Ank repeat
- BRACE3000973 //Leucine Rich Repeat
- 25 BRACE3001002 //Lipoprotein
- BRACE3003192 //EGF-like domain// EGF-like domain// EGF-like
domain// EGF-like domain// Metallothionein// Keratin, high
sulfur B2 protein// EGF-like domain// EGF-like domain// EGF-like
domain// EGF-like domain// TB domain// EGF-like domain// EGF-
- 30 like domain// EGF-like domain// TB domain// EGF-like domain//
EGF-like domain
- BRACE3004772 //SAM domain (Sterile alpha motif)
- BRACE3004880 //GLTT repeat (12 copies)// GLTT repeat (12
copies)// GLTT repeat (12 copies)// Keratin, high sulfur B2
- 35 protein
- BRACE3008137 //PDZ domain (Also known as DHR or GLGF).// PDZ

domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).

BRACE3008384 //Rhomboid family

BRACE3009090 //Beige/BEACH domain

5 BRACE3010397 //SCP-like extracellular protein

BRACE3015521 //EF hand

BRACE3016884 //Keratin, high sulfur B2 protein// Flagellar L-ring protein

BRACE3019084 //SAM domain (Sterile alpha motif)

10 BRAMY2004771 //Leucine Rich Repeat// Leucine rich repeat C-terminal domain// Leucine rich repeat N-terminal domain

BRAMY2019300 //Leucine Rich Repeat// Leucine rich repeat C-terminal domain// Leucine rich repeat N-terminal domain

BRAMY2021498 //Thrombospondin type 1 domain// DnaJ central

15 domain (4 repeats)// Thrombospondin type 1 domain// Thrombospondin type 1 domain// Thrombospondin type 1 domain// Thrombospondin type 1 domain

BRAMY2031317 //PDZ domain (Also known as DHR or GLGF).

BRAMY2039872 //Interferon alpha/beta domain

20 BRAMY2046989 //TPR Domain// TPR Domain// TPR Domain// TPR Domain// TPR Domain// TPR Domain

BRAMY3004224 //Leucine rich repeat N-terminal domain// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine rich repeat

25 C-terminal domain

BRAMY3005932 //Ank repeat

BRAWH1000127 //Plexin repeat// Thrombospondin type 1 domain

BRAWH2001395 //Myelin basic protein

BRAWH2014954 //PDZ domain (Also known as DHR or GLGF).// PDZ

30 domain (Also known as DHR or GLGF).

BRAWH3000078 //Adaptin N terminal region// Activin types I and II receptor domain

BRAWH3001891 //YCF9

BRAWH3002574 //Calpain large subunit, domain III// EF hand

35 BRAWH3002600 //Cadherin domain// Cadherin domain// Cadherin domain

BRAWH3008341 //Pentaxin family
 BRCAN2002948 //Adaptin N terminal region
 BRCAN2009203 //SAM domain (Sterile alpha motif)
 BRCAN2015464 //Gag P30 core shell protein
 5 BRCAN2017717 //Squash family of serine protease inhibitors
 BRCOC2001505 //Myelin basic protein
 BRCOC2016525 //Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Ank repeat// Ank repeat// Ank repeat
 BRHIP2003786 //Ank repeat// Ank repeat// Ank repeat// BTB/POZ
 10 domain
 BRHIP2005236 //Galactose binding lectin domain// Latrophilin
 Cytoplasmic C-terminal region
 BRHIP2007616 //Sema domain
 BRHIP2009414 //Uncharacterized protein family
 15 BRHIP3000339 //Myelin basic protein
 BRHIP3008313 //Ank repeat
 BRSTN2001067 //Rifin/stevor family
 BRTHA2000855 //Extracellular link domain
 BRTHA2005579 //von Willebrand factor type C domain// von
 20 Willebrand factor type C domain// von Willebrand factor type C
 domain// von Willebrand factor type C domain// von Willebrand
 factor type C domain// von Willebrand factor type C domain// von
 Willebrand factor type C domain// von Willebrand factor type C
 domain// von Willebrand factor type C domain// von Willebrand
 25 factor type C domain// von Willebrand factor type C domain// von
 Willebrand factor type C domain
 BRTHA2007122 //Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// SAM domain (Sterile alpha motif)
 BRTHA2008527 //Leucine Rich Repeat// Leucine Rich Repeat//
 30 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 BRTHA2009311 //Vertebrate galactoside-binding lectins
 BRTHA2010884 //Thrombospondin type 1 domain// CUB domain
 BRTHA2013262 //Keratin, high sulfur B2 protein
 BRTHA2014792 //SET domain
 35 BRTHA2015406 //UBA domain
 BRTHA2016496 //Peptidase C13 family

BRTHA2018591 //GTPase of unknown function
 BRTHA2018624 //Galactose binding lectin domain// Activin types I
 and II receptor domain// Galactose binding lectin domain
 BRTHA2019048 //Domain of unknown function DUF71
 5 BRTHA3003074 //Fanconi anaemia group C protein
 BRTHA3008310 //Homeobox domain
 CTONG1000341 //EGF-like domain// EGF-like domain//
 Metallothionein// EGF-like domain// EB module// EGF-like
 domain// EGF-like domain// EGF-like domain
 10 CTONG2001877 //MutT-like domain
 CTONG2008233 //DnaJ domain
 CTONG2017500 //F-box domain.
 CTONG2020026 //Herpesvirus VP23 like capsid protein
 CTONG2028687 //TPR Domain// TPR Domain
 15 CTONG3000686 //TPR Domain// TPR Domain// TPR Domain// TPR Domain
 CTONG3004072 //Beta type Zein// Keratin, high sulfur B2 protein
 CTONG3006067 //DnaJ central domain (4 repeats)
 CTONG3006186 //PDZ domain (Also known as DHR or GLGF)//
 Apolipoprotein A1/A4/E family// WW domain
 20 CTONG3009385 //TPR Domain// TPR Domain// TPR Domain// TPR
 Domain// TPR Domain// TPR Domain// TPR Domain// TPR Domain// TPR
 Domain// TPR Domain
 DFNES2000146 //Plexin repeat// Thrombospondin type 1 domain
 DFNES2005266 //Thrombospondin type 1 domain
 25 FCBBF3009888 //Keratin, high sulfur B2 protein// u-PAR/Ly-6
 domain
 FCBBF3012170 //Thrombospondin type 1 domain
 FEBRA2000253 //Flagellar L-ring protein
 FEBRA2007801 //IBR domain
 30 FEBRA2021571 //von Willebrand factor type D domain
 FEBRA2024150 //DENN (AEX-3) domain
 HCHON2004776 //Protein of unknown function DUF93
 HEART1000139 //Troponin
 HEART2006909 //CBS domain// CBS domain
 35 HEART2010495 //Tau and MAP proteins, tubulin-binding
 HLUNG2000014 //Lectin C-type domain

HLUNG2002958 //EF hand
 HLUNG2011298 //Oxidoreductase FAD/NAD-binding domain
 IMR322006495 //Tropomyosins
 KIDNE2000846 //Sodium:neurotransmitter symporter family
 5 KIDNE2001361 //Domain of unknown function DUF19
 KIDNE2011635 //Sodium:solute symporter family
 KIDNE2012945 //CUB domain// Pentaxin family
 NESOP2001656 //Polyomavirus coat protein
 NT2RI2008724 //GGL domain
 10 NT2RI2025909 //Mitochondrial carrier proteins// Mitochondrial
 carrier proteins// Mitochondrial carrier proteins
 NT2RI2025957 //PDZ domain (Also known as DHR or GLGF).
 NT2RI3007543 //DnaJ domain
 NT2RP7000359 //FERM domain (Band 4.1 family)// Insulin-like
 15 growth factor binding proteins// PDZ domain (Also known as DHR
 or GLGF).
 NT2RP7004027 //CUB domain// Sushi domain (SCR repeat)
 NT2RP7011570 //Gag P30 core shell protein
 NT2RP8000296 //BTB/POZ domain// Kelch motif// Kelch motif//
 20 Kelch motif// Kelch motif// Kelch motif// Kelch motif
 NTONG2005277 //Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat
 NTONG2006354 //Ank repeat
 NTONG2007517 //BTB/POZ domain
 25 OCBBF2006764 //Sushi domain (SCR repeat)// CUB domain// Sushi
 domain (SCR repeat)// CUB domain// Sushi domain (SCR repeat)
 OCBBF2010416 //Major intrinsic protein
 OCBBF2020838 //Fork head domain
 OCBBF2021323 //Regulatory subunit of type II PKA R-subunit
 30 OCBBF2033869 //CUB domain
 PERIC2001228 //Leucine Rich Repeat// Leucine Rich Repeat//
 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
 Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 PERIC2003720 //Ezrin/radixin/moesin family
 35 PLACE6020031 //Ank repeat// Ank repeat
 PLACE7000514 //Filamin/ABP280 repeat.

PROST2018090 //Sushi domain (SCR repeat)// Sushi domain (SCR repeat)// Chitin binding Peritrophin-A domain// HYR domain// Sushi domain (SCR repeat)
 RECTM2000433 //Jacalin-like lectin domain
 5 SKMUS2006394 //Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat// Ank repeat
 SMINT1000192 //Small hydrophilic plant seed proteins
 SPLEN2002147 //Phosphatidylinositol transfer protein
 SPLEN2002467 //DB module// F-box domain.// Leucine Rich Repeat
 10 SPLEN2031780 //Domain of unknown function DUF139// Domain of unknown function DUF139
 SPLEN2034081 //Insulin-like growth factor binding proteins
 SPLEN2036821 //Mitochondrial carrier proteins
 SYNOV2005448 //Apidaecin
 15 SYNOV2005817 //Domain of unknown function DUF19// Tissue factor
 SYNOV2006430 //Nitrogen regulatory protein P-II
 SYNOV2014400 //EGF-like domain// Granulins// Granulins// EGF-like domain
 SYNOV4007553 //Leucine Rich Repeat// Leucine Rich Repeat//
 20 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine rich repeat
 C-terminal domain// TIR domain
 25 SYNOV4008440 //Adaptin N terminal region
 TESOP2001953 //Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
 TESTI2000443 //Leucine Rich Repeat// Leucine Rich Repeat//
 30 Leucine Rich Repeat
 TESTI2004700 //Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 TESTI2027019 //Leucine Rich Repeat
 TESTI4000462 //Keratin, high sulfur B2 protein
 35 TESTI4000970 //Ezrin/radixin/moesin family
 TESTI4002491 //NSF attachment protein

TESTI4006546 //Tudor domain// Tudor domain// Tudor domain
 TESTI4007064 //DENN (AEX-3) domain// PPR repeat// LIM domain
 containing proteins
 TESTI4011484 //SAM domain (Sterile alpha motif)
 5 TESTI4012406 //Kringle domain
 TESTI4015471 //Tropomyosins
 TESTI4016110 //DnaJ domain
 TESTI4017137 //Keratin, high sulfur B2 protein
 TESTI4017575 //MSP (Major sperm protein) domain
 10 TESTI4018152 //FERM domain (Band 4.1 family)
 TESTI4018555 //Granulins
 TESTI4020092 //Laminin G domain
 TESTI4023555 //Lectin C-type domain
 TESTI4025920 //Adaptin N terminal region
 15 TESTI4026192 //Domain of unknown function
 TESTI4027557 //Vertebrate galactoside-binding lectins//
 Vertebrate galactoside-binding lectins
 TESTI4028429 //WAP-type (Whey Acidic Protein) 'four-disulfide
 core'
 20 TESTI4028612 //Major intrinsic protein
 TESTI4028983 //Serum amyloid A protein
 TESTI4030505 //Metallothionein family 5
 TESTI4038492 //Serum amyloid A protein
 TESTI4039659 //DnaJ domain
 25 TESTI4041053 //Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// Armadillo/beta-catenin-like repeats// Armadillo/beta-
 catenin-like repeats// Armadillo/beta-catenin-like repeats//
 Armadillo/beta-catenin-like repeats// Armadillo/beta-catenin-
 like repeats// Armadillo/beta-catenin-like repeats
 30 TESTI4044084 //Domain of unknown function
 TESTI4046487 //Hantavirus nucleocapsid protein
 TESTI4046819 //Metallothionein// PTS HPr component
 phosphorylation sites
 THYMU2004693 //CX module
 35 THYMU2011736 //EGF-like domain// EGF-like domain// EB module//
 EGF-like domain// TB domain// EGF-like domain// EGF-like domain

THYMU2016204 //Metallothionein
 THYMU2027734 //Parvovirus coat protein VP2
 THYMU2038369 //Regulatory subunit of type II PKA R-subunit
 THYMU2038797 //Lectin C-type domain
 5 THYMU3000028 //Zona pellucida-like domain
 THYMU3003212 //Cytidine and deoxycytidylate deaminase zinc-binding region
 THYMU3003763 //Leucine rich repeat N-terminal domain// Polyomavirus coat protein
 10 THYMU3007137 //PDZ domain (Also known as DHR or GLGF).// PDZ domain (Also known as DHR or GLGF).
 THYMU3008171 //TPR Domain
 TLIVE2002338 //Transforming growth factor beta like domain
 TLIVE2002690 //von Willebrand factor type D domain
 15 TLIVE2003225 //CUB domain// Sushi domain (SCR repeat)// CUB domain// Sushi domain (SCR repeat)
 TLIVE2008229 //TPR Domain// TPR Domain
 TRACH2001443 //TIR domain
 TRACH3001427 //UBX domain
 20 TRACH3003379 //Protein phosphatase 2A regulatory B subunit
 TRACH3008713 //NSF attachment protein
 TRACH3035235 //S-100/ICaBP type calcium binding domain
 TUTER2000425 //KRAB box
 UTERU1000031 //ENTH domain// VHS domain
 25 UTERU2006115 //Adaptin N terminal region
 UTERU2006568 //IBR domain
 UTERU2019706 //TCP-1/cpn60 chaperonin family// TCP-1/cpn60 chaperonin family
 UTERU2035328 //WW domain// WW domain// WW domain// FF domain//
 30 FF domain// FF domain
 UTERU2035331 //Fibrillar collagen C-terminal domain
 UTERU2035452 //EGF-like domain// Metallothionein// EGF-like domain
 UTERU3001652 //Wiskott Aldrich syndrome homology region 2
 35 UTERU3001766 //Apidaecin
 UTERU3001988 //TPR Domain

- UTERU3002667 //Polyomavirus coat protein
 UTERU3003178 //TPR Domain// TPR Domain// TPR Domain// TPR
 Domain// PPR repeat
 UTERU3005585 //PDZ domain (Also known as DHR or GLGF).
 5 UTERU3007640 //NSF attachment protein
 UTERU3008660 //TPR Domain// TPR Domain
 UTERU3009871 //Ank repeat// Ank repeat// Ank repeat// Ank
 repeat// TPR Domain// Ank repeat// Ank repeat
 UTERU3009979 //EGF-like domain// EGF-like domain// EGF-like
 10 domain// Trypsin Inhibitor like cysteine rich domain// EGF-like
 domain// Laminin G domain// Thrombospondin N-terminal -like
 domains// Laminin G domain
 UTERU3015500 //Leucine rich repeat N-terminal domain// Leucine
 Rich Repeat// Leucine Rich Repeat// Leucine Rich Repeat//
 15 Leucine Rich Repeat// Leucine Rich Repeat// Leucine Rich
 Repeat// Leucine Rich Repeat// Leucine Rich Repeat// Leucine
 Rich Repeat

Likewise, although the 45 clones described below have hit
 data in Pfam (see Example 5), it remains unclear as to which of
 20 the above-described categories each of the clones belong.
 However, if data for proteins comprising a similar domain or
 motif are accumulated and their functions are clarified in more
 detail, in the future these clones can be classified into any of
 the categories described above.

- 25 3NB692004724// KRAB box// Integrase core domain
 ADRGL2000042// Nucleosome assembly protein (NAP)
 BRACE2037299// Integrase core domain
 BRALZ2017844// Homeobox domain
 BRAWH2006207// KRAB box
 30 BRCAN2002854// SAP domain
 BRHIP2006617// TPR Domain// TPR Domain
 BRHIP2012360// XPG N-terminal domain// XPG I-region
 BRHIP3008314// Sir2 family
 BRTHA2016318// KE2 family protein
 35 CTONG2019822// Hepatitis C virus core protein
 FCBBF3010361// Fork head domain

FEBRA2006519// Thrombospondin type 1 domain// Thrombospondin
 type 1 domain
 FEBRA2028256// EGF-like domain// EGF-like domain// EGF-like
 domain// EGF-like domain// EGF-like domain// TB domain// EGF-
 5 like domain// EGF-like domain// EGF-like domain// EGF-like
 domain// EB module// Squash family of serine protease
 inhibitors// EGF-like domain// EGF-like domain
 FEBRA2028516// GRIP domain
 HCASM2008536// XRCC1 N terminal domain
 10 IMR322007078// UBA domain
 IMR322008651// Helix-hairpin-helix motif.
 LIVER2000247// Sodium
 OCBBF2003327// Thrombospondin type 1 domain// Thrombospondin
 type 1 domain// Thrombospondin type 1 domain
 15 PROST2009320// LIM domain containing proteins// LIM domain
 containing proteins
 PUAEN2006335// Formin Homology 2 Domain
 SKMUS2003194// SAP domain
 SPLEN2039379// Transthyretin precursor (formerly prealbumin)
 20 SYNOV1000256// Leucine Rich Repeat// BAH domain// Leucine Rich
 Repeat// Leucine Rich Repeat// Leucine Rich Repeat
 SYNOV2006620// Nuclear transition protein 2
 SYNOV4003981// Somatomedin B domain// WAP-type (Whey Acidic
 Protein) 'four-disulfide core'// Hemopexin// Hemopexin
 25 SYNOV4005889// Apolipoprotein A1/A4/E family
 TESOP2006865// KRAB box
 TESTI1000266// Integrase core domain
 TESTI2050780// Kazal-type serine protease inhibitor domain
 TESTI4000137// Domain of unknown function
 30 TESTI4024387// GDP dissociation inhibitor
 TESTI4029528// RanBP1 domain.
 TESTI4038721// Squash family of serine protease inhibitors
 TESTI4046240// Sir2 family
 THYMU2035078// Domain of unknown function DUF27
 35 THYMU3000269// FAD binding domain
 THYMU3000360// Integrase core domain

TRACH1000212// TSC-22/dip/bun family
 TRACH2000862// Guanylate-binding protein
 TRACH2019672// CRAL/TRIO domain.
 TRACH2024559// IQ calmodulin-binding motif// IQ calmodulin-
 5 binding motif
 UTERU2032279// Serpins (serine protease inhibitors)
 UTERU2033577// KRAB box

In addition, when data for proteins are accumulated and novel domains and motifs are found, in the future the remaining
 10 clones, which had no hit data in the search with Pfam, can be classified into any of the above-described categories if a new functional domain or motif is identified by re-analyzing the deduced amino acid sequences of the clones using a homology search against an updated database.

15

EXAMPLE 8

Expression frequency analysis *in silico*

The cDNA libraries derived from various tissues and cells as indicated in Example 1 were prepared, and cDNA clones were
 20 selected from each library at random. The 5'-end sequences were determined and the database was constructed based on the data. The database was constructed based on the nucleotide sequences of 1,402,069 clones, and thus the population of the database is large enough for the analysis.

25 Then, clones having a homologous sequence are categorized into a single cluster (clustering) by searching the nucleotide sequences of respective clones in this database with the program of nucleotide sequence homology search; the number of clones belonging to each cluster was determined and normalized for
 30 every library; thus, the ratio of a certain gene in each cDNA library was determined. This analysis gave the information of the expression frequency of genes in tissues and cells which were sources of the cDNA libraries.

35 Then, in order to analyze the expression of a gene containing the nucleotide sequence of the cDNA of the present invention in tissues and cells, the library derived from a

tissue or a cell used in the large-scale cDNA analysis was subjected to the comparison of the expression levels between tissues or cells. Namely, the expression frequency was analyzed by comparing the previously normalized values between tissues and/or cells for which the nucleotide sequences of 600 or more cDNA clones had been analyzed. By this analysis, some of the genes were revealed to be involved in the pathology and functions indicated below. Each value in Tables 2 to 24 shown below represents a relative expression frequency; the higher the value, the higher the expression level. The genes which are included a part of the Tables indicate not so big difference between compared libraries, but when compared with other libraries from another tissue or cell based on Example 9, they indicate significant difference. Thus, the genes are specific in each tissue or cell, and can be considered to be useful as diagnosing markers for the disease as well as useful for analyzing molecular mechanisms.

Osteoporosis-related genes

Osteoporosis is a pathology in which bones are easily broken owing to overall decrease in components of bone. The onset involves the balance between the functions of osteoblast producing bone and osteoclast absorbing bone, namely bone metabolism. Thus, the genes involved in the increase of osteoclasts differentiating from precursor cells of monocyte/macrophage line (Molecular Medicine 38. 642-648. (2001)) are genes involved in osteoporosis relevant to bone metabolism.

A nucleotide sequence information-based analysis was carried out to identify the genes whose expression frequencies are higher or lower in CD34+ cell (cell expressing a glycoprotein CD34) treated with the osteoclast differentiation factor (Molecular Medicine 38. 642-648. (2001)) than in the untreated CD34+ cell, which is the precursor cell of monocyte/macrophage line. The result of comparative analysis for the frequency between the two cDNA libraries prepared from

the RNA of CD34+ cells (CD34C) and from the RNA of CD34+ cells treated with the osteoclast differentiation factor (D30ST, D60ST or D90ST) showed that the genes whose expression levels were different between the two were the following 15 and 2 clones (Table 2).

BRACE3013780, BRAMY2047420, BRSTN2016470, CTONG3008894, D3OST2002182, D3OST2002648, D3OST3000169, PEBLM2005183, PUAEN2009655, TESTI4000014, TESTI4010851, TRACH2023299, TRACH2025535, TRACH3001427, UTERU2006137
HCHON2000508, TESTI2015626

These genes are involved in osteoporosis.

Genes involved in neural cell differentiation

Genes involved in neural cell differentiation are useful for treating neurological diseases. Genes with varying expression levels in response to induction of cellular differentiation in neural cells are thought to be involved in neurological diseases.

A survey was performed for genes whose expression levels are varied in response to induction of differentiation (stimulation by retinoic acid (RA) or growth inhibitor treatment after RA stimulation) in cultured cells of a neural strain, NT2. The result of comparative analysis of cDNA libraries derived from undifferentiated NT2 cells (NT2RM) and the cells subjected to the differentiation treatment (NT2RP, NT2RI or NT2NE) showed that the genes whose expression levels were different between the two were the following 174 and 30 clones (Table 3).

BNGH42007788, BRACE1000186, BRACE2006319, BRACE2014306, BRACE2015058, BRACE2044286, BRACE3010428, BRAMY2044078, BRAWH2014645, BRAWH2014662, BRAWH3002574, BRAWH3003992, BRAWH3005981, BRAWH3007592, BRCAN2009432, BRCAN2016619, BRCAN2028355, BRHIP2001074, BRHIP2007741, BRHIP2014228, BRHIP2024146, BRHIP3007586, BRHIP3018797, BRTHA2003461, BRTHA3000633, BRTHA3003490, COLON2001721, CTONG1000087, CTONG2008233, CTONG2020638, CTONG2028124, CTONG3003905, CTONG3008894, CTONG3009028, CTONG3009239, DFNES2011499,

FCBBF3001977, FEBRA1000030, FEBRA2006396, FEBRA2007801,
 HCHON2000028, HCHON2000244, HCHON2001084, HCHON2001217,
 HCHON2001548, HCHON2006250, HEART1000074, HHDP1000118,
 HSYRA2009075, IMR322000127, IMR322001380, KIDNE2000665,
 5 KIDNE2002252, MESAN2006563, MESAN2012054, MESAN2015515,
 NT2NE2003252, NT2NE2005890, NT2NE2006531, NT2NE2006909,
 NT2NE2008060, NT2RI2003993, NT2RI2004618, NT2RI2005166,
 NT2RI2006686, NT2RI2008724, NT2RI2009855, NT2RI2011422,
 NT2RI2011683, NT2RI2012659, NT2RI2012990, NT2RI2013357,
 10 NT2RI2014247, NT2RI2014551, NT2RI2014733, NT2RI2016128,
 NT2RI2018311, NT2RI2018883, NT2RI2019751, NT2RI2023303,
 NT2RI2025909, NT2RI2025957, NT2RI2027081, NT2RI2027396,
 NT2RI3000622, NT2RI3001263, NT2RI3001515, NT2RI3002303,
 NT2RI3002842, NT2RI3002892, NT2RI3003031, NT2RI3003095,
 15 NT2RI3003162, NT2RI3003382, NT2RI3003409, NT2RI3004381,
 NT2RI3004510, NT2RI3005202, NT2RI3005403, NT2RI3005724,
 NT2RI3006132, NT2RI3006171, NT2RI3006284, NT2RI3006340,
 NT2RI3006376, NT2RI3006673, NT2RI3006796, NT2RI3007065,
 NT2RI3007158, NT2RI3007291, NT2RI3007543, NT2RI3007757,
 20 NT2RI3007978, NT2RI3008055, NT2RI3008162, NT2RI3008652,
 NT2RI3008697, NT2RI3008974, NT2RI3009158, NT2RP7000359,
 NT2RP7000466, NT2RP7004027, NT2RP7004123, NT2RP7005118,
 NT2RP7005529, NT2RP7005846, NT2RP7009030, NT2RP7009147,
 NT2RP7009867, NT2RP7010128, NT2RP7010599, NT2RP7011570,
 25 NT2RP7013795, NT2RP7014005, NT2RP7015512, NT2RP7017365,
 NT2RP7017474, NT2RP7017546, NT2RP8000137, NT2RP8000296,
 NT2RP8000483, NTONG2005969, OCBBF2007028, OCBBF2037068,
 PLACE7000514, PUAEN2007044, SPLEN2002467, SPLEN2006122,
 SPLEN2028914, SPLEN2031547, SYNOV4002346, SYNOV4007671,
 30 SYNOV4008440, TESOP2002273, TESTI2003573, TESTI4000014,
 TESTI4009286, TESTI4010851, TESTI4012702, TESTI4029671,
 TESTI4037156, THYMU3000133, TRACH1000205, TRACH2005811,
 TRACH2007834, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004721, TRACH3008093, TRACH3008535, TRACH3008713,
 35 UTERU2002410, UTERU2023175

ADRGL2000042, BRACE2003609, BRACE3003026, BRHIP3000017,
 CTONG2020411, FCBBF1000509, FCBBF3027854, FEBRA2028516,
 HCHON2000508, IMR322001879, NT2RI2005772, NT2RI2008952,
 NT2RI2009583, NT2RI2018448, NT2RI2027157, NT2RI3000174,
 5 NT2RI3001132, NT2RI3002557, NT2RI3005928, NT2RI3007167,
 NT2RI3007443, NT2RP7008435, NT2RP8000521, OCBBF2006987,
 PERIC2007068, TESTI2015626, TESTI4015442, TLIVE2002046,
 TRACH3000134, TUTER2000057

These genes are neurological disease-related genes.

10

Genes involved in Alzheimer's disease

Alzheimer's disease is a cranial neurological disease that
 is characterized by memory loss. As the disease advances,
 patients can no longer support themselves and require nursing.
 15 Alzheimer's disease eventually leads to atrophication of the
 brain itself. Environmental factors such as stress, and
 vascular factors such as hypertension and cholesterolemia, are
 assumed, but not confirmed, to contribute to the onset of
 Alzheimer's disease. Genes whose expression levels differ
 20 between normal brain tissues and tissues affected with
 Alzheimer's disease are expected to be involved in Alzheimer's
 disease. Such genes can be used to elucidate the disease's
 onset mechanism and in genetic diagnosis. cDNA libraries
 derived from the cerebral cortex of Alzheimer patients (BRALZ
 25 and BRASW), and a library derived from whole tissues of a normal
 brain (BRAWH) were analyzed and compared (Table 4). The results
 showed that genes whose expression levels differed between the
 two are the following 250 and 41 clones listed below.

ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 30 BRACE1000533, BRACE2005457, BRACE2010489, BRACE2014657,
 BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,
 BRACE3003192, BRACE3005499, BRACE3007480, BRACE3009237,
 BRACE3009724, BRACE3009747, BRACE3010428, BRACE3011271,
 BRACE3011421, BRACE3012364, BRACE3022769, BRACE3026735,
 35 BRACE3031838, BRALZ2011796, BRALZ2012183, BRALZ2012848,
 BRALZ2014484, BRALZ2016085, BRALZ2016498, BRALZ2017359,

BRAMY2003008, BRAMY2005052, BRAMY2019300, BRAMY2019963,
 BRAMY2036567, BRAMY2037823, BRAMY2040592, BRAMY3002803,
 BRAMY3004224, BRAMY3005091, BRASW1000053, BRASW1000125,
 BRAWH1000127, BRAWH2001395, BRAWH2001671, BRAWH2001940,
 5 BRAWH2001973, BRAWH2002560, BRAWH2002761, BRAWH2005315,
 BRAWH2007658, BRAWH2010000, BRAWH2010084, BRAWH2010536,
 BRAWH2012162, BRAWH2012326, BRAWH2013294, BRAWH2013871,
 BRAWH2014414, BRAWH2014645, BRAWH2014662, BRAWH2014876,
 BRAWH2014954, BRAWH2016221, BRAWH2016439, BRAWH2016702,
 10 BRAWH2016724, BRAWH3000078, BRAWH3000100, BRAWH3000314,
 BRAWH3000491, BRAWH3001326, BRAWH3001475, BRAWH3001891,
 BRAWH3002574, BRAWH3002600, BRAWH3002819, BRAWH3002821,
 BRAWH3003522, BRAWH3003555, BRAWH3003727, BRAWH3003801,
 BRAWH3003992, BRAWH3004453, BRAWH3004666, BRAWH3005132,
 15 BRAWH3005422, BRAWH3005912, BRAWH3005981, BRAWH3006548,
 BRAWH3006792, BRAWH3007221, BRAWH3007506, BRAWH3007592,
 BRAWH3007726, BRAWH3007783, BRAWH3008341, BRAWH3008697,
 BRAWH3008931, BRAWH3009297, BRCOC2003213, BRCOC2014033,
 BRCOC2020142, BRHIP2000920, BRHIP2005719, BRHIP2007741,
 20 BRHIP2014228, BRHIP2024146, BRHIP2026288, BRHIP3000339,
 BRHIP3006683, BRHIP3007586, BRHIP3008405, BRHIP3018797,
 BRSSN2000684, BRSSN2011738, BRSSN2014299, BRSTN2008052,
 BRSTN2015015, BRSTN2016470, BRTHA1000311, BRTHA2008335,
 BRTHA3002427, BRTHA3003490, BRTHA3008520, BRTHA3017848,
 25 COLON2001721, CTONG2017500, CTONG2028124, CTONG3000657,
 CTONG3001123, CTONG3009328, FCBBF2001183, FCBBF3001977,
 FEBRA2007544, FEBRA2007801, FEBRA2020886, FEBRA2028618,
 HCASM2007047, HCHON2000244, HCHON2000626, HCHON2001217,
 HCHON2002676, HCHON2006250, HEART1000074, HHDPC1000118,
 30 HLUNG2002465, IMR322000127, IMR322001380, IMR322002035,
 KIDNE2006580, MESAN2006563, MESAN2012054, MESTC1000042,
 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 NT2RI2014733, NT2RI3002892, NT2RI3006284, NT2RI3006673,
 NT2RI3007543, NT2RI3008055, NT2RP7005529, NT2RP7009147,
 35 NT2RP7014005, NT2RP7017474, NTONG2005969, OCBBF2001794,
 OCBBF2006005, OCBBF2006764, OCBBF2007028, OCBBF2007114,

OCBBF2010140, OCBBF2021286, OCBBF2023162, OCBBF2024850,
 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SMINT2001818,
 5 SPLEN2028914, SPLEN2031424, SPLEN2031547, SPLEN2034781,
 SPLEN2036932, SYNOV2014400, SYNOV4002346, SYNOV4002883,
 SYNOV4007430, SYNOV4007671, SYNOV4008440, TESOP2002273,
 TESOP2002451, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4006137, TESTI4008797, TESTI4009286, TESTI4010851,
 10 TESTI4013817, TESTI4014694, TESTI4021478, TESTI4022936,
 TESTI4024420, TESTI4027821, THYMU2001090, THYMU2033308,
 THYMU2035735, THYMU2039315, THYMU3001234, THYMU3008171,
 TKIDN2009641, TKIDN2009889, TKIDN2015788, TRACH1000205,
 TRACH2001549, TRACH2005811, TRACH2006049, TRACH2007834,
 15 TRACH2008300, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3007479,
 TRACH3008093, TRACH3009455, UTERU2005621, UTERU2006115,
 UTERU2019706, UTERU2023039, UTERU2026203, UTERU3005230,
 UTERU3007640, UTERU3009871
 20 ADRGL2000042, BLADE2006830, BRACE2003609, BRALZ2017844,
 BRAMY3004800, BRAWH1000369, BRAWH2006207, BRAWH2006395,
 BRAWH2008993, BRAWH2009393, BRAWH2010552, BRAWH3007441,
 BRAWH3009017, BRHIP2005271, BRHIP3000017, BRHIP3026052,
 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 25 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000743, IMR322001879, NT2RI2009583,
 OCBBF2008144, PERIC2007068, PUAEN2006335, SPLEN2039379,
 TESTI4001984, TESTI4008058, TESTI4025268, TESTI4032090,
 THYMU3000360, TLIVE2002046, TRACH3000134, UTERU2021820,
 30 UTERU2028734

These genes are involved in Alzheimer's disease.

Genes involved in Parkinson's disease

Parkinson's disease is a cranial neurological disease
 35 characterized by impaired production of the neurotransmitter
 dopamine in the substantia nigra in the brain. This results in

dyskinesia, such as hand tremors, and impaired body movement due to muscular rigidity. Normally, the number of brain neurons gradually decreases with age. However, compared to healthy people, patients with Parkinson's disease experience a rapid and marked decrease in the number of neurons in their substantia nigra. Genes whose expression levels differ between tissues of the whole brain and the nigra are expected to be involved in Parkinson's disease. These genes exhibit nigra-specific alterations in their expression levels, and can be used to elucidate the disease onset mechanism and in gene diagnosis. cDNA libraries derived from the substantia nigra (BRSSN) and a library derived from whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 5). Genes whose expression levels differed between the two were the 250 clones and 40 clones listed below.

ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 BRACE1000533, BRACE2005457, BRACE2010489, BRACE2014657,
 BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,
 BRACE3003192, BRACE3005499, BRACE3007480, BRACE3009237,
 BRACE3009724, BRACE3009747, BRACE3010428, BRACE3011271,
 BRACE3011421, BRACE3012364, BRACE3013780, BRACE3022769,
 BRACE3026735, BRACE3031838, BRALZ2011796, BRAMY2003008,
 BRAMY2005052, BRAMY2019300, BRAMY2019963, BRAMY2036567,
 BRAMY2037823, BRAMY2040592, BRAMY2047420, BRAMY3002803,
 BRAMY3004224, BRAMY3005091, BRAWH1000127, BRAWH2001395,
 BRAWH2001671, BRAWH2001940, BRAWH2001973, BRAWH2002560,
 BRAWH2002761, BRAWH2005315, BRAWH2007658, BRAWH2010000,
 BRAWH2010084, BRAWH2010536, BRAWH2012162, BRAWH2012326,
 BRAWH2013294, BRAWH2013871, BRAWH2014414, BRAWH2014645,
 BRAWH2014662, BRAWH2014876, BRAWH2014954, BRAWH2016221,
 BRAWH2016439, BRAWH2016702, BRAWH2016724, BRAWH3000078,
 BRAWH3000100, BRAWH3000314, BRAWH3000491, BRAWH3001326,
 BRAWH3001475, BRAWH3001891, BRAWH3002574, BRAWH3002600,
 BRAWH3002819, BRAWH3002821, BRAWH3003522, BRAWH3003555,
 BRAWH3003727, BRAWH3003801, BRAWH3003992, BRAWH3004453,
 BRAWH3004666, BRAWH3005132, BRAWH3005422, BRAWH3005912,

BRAWH3005981, BRAWH3006548, BRAWH3006792, BRAWH3007221,
 BRAWH3007506, BRAWH3007592, BRAWH3007726, BRAWH3007783,
 BRAWH3008341, BRAWH3008697, BRAWH3008931, BRAWH3009297,
 BRCOC2003213, BRCOC2014033, BRCOC2020142, BRHIP2000920,
 5 BRHIP2005719, BRHIP2007741, BRHIP2014228, BRHIP2024146,
 BRHIP3000339, BRHIP3006683, BRHIP3007586, BRHIP3008405,
 BRHIP3018797, BRSSN2000684, BRSSN2003086, BRSSN2004496,
 BRSSN2004719, BRSSN2006892, BRSSN2008549, BRSSN2008797,
 BRSSN2011262, BRSSN2011738, BRSSN2013874, BRSSN2014299,
 10 BRSSN2014424, BRSSN2014556, BRSSN2018581, BRSSN2018925,
 BRSTN2008052, BRSTN2015015, BRSTN2016470, BRTHA1000311,
 BRTHA2003461, BRTHA2008335, BRTHA3002427, BRTHA3003490,
 BRTHA3008520, BRTHA3017848, COLON2001721, CTONG2017500,
 CTONG2028124, CTONG3000657, CTONG3001123, CTONG3009328,
 15 FCBBF2001183, FCBBF3001977, FEBRA2007544, FEBRA2007801,
 FEBRA2020886, FEBRA2024136, FEBRA2025427, FEBRA2028618,
 HCASM2007047, HCHON2000244, HCHON2000626, HCHON2001217,
 HCHON2002676, HCHON2006250, HEART1000074, HHDPC1000118,
 HLUNG2002465, IMR322000127, IMR322002035, KIDNE2006580,
 20 MESAN2006563, MESAN2012054, MESTC1000042, NOVAR2001783,
 NT2NE2006909, NT2RI2008724, NT2RI2012659, NT2RI2014733,
 NT2RI3002892, NT2RI3006284, NT2RI3006673, NT2RI3007543,
 NT2RI3008055, NT2RP7005529, NT2RP7009147, NT2RP7014005,
 NT2RP7017474, OCBBF2001794, OCBBF2006005, OCBBF2006764,
 25 OCBBF2007028, OCBBF2010140, OCBBF2021286, OCBBF2024850,
 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,
 PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2028914,
 SPLEN2031424, SPLEN2031547, SPLEN2034781, SPLEN2036932,
 30 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4008440, TESOP2002451, TESTI4000014, TESTI4000209,
 TESTI4001100, TESTI4006137, TESTI4008797, TESTI4009286,
 TESTI4010851, TESTI4013817, TESTI4014694, TESTI4021478,
 TESTI4022936, TESTI4024420, TESTI4027821, TESTI4037156,
 35 THYMU2001090, THYMU2033308, THYMU2035735, THYMU2039315,
 THYMU3001234, THYMU3008171, TKIDN2009641, TKIDN2009889,

TKIDN2015788, TRACH1000205, TRACH2001549, TRACH2005811,
 TRACH2006049, TRACH2007834, TRACH2008300, TRACH2025535,
 TRACH3001427, TRACH3002192, TRACH3004721, TRACH3005294,
 TRACH3007479, TRACH3008093, TRACH3009455, UTERU2006115,
 5 UTERU2019706, UTERU2023039, UTERU2026203, UTERU3005230,
 UTERU3007640, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 10 BRHIP2005271, BRHIP3000017, BRTHA2018443, BRTHA3003000,
 CTONG2020374, CTONG2020378, CTONG2024031, FCBBF1000509,
 FEBRA2001990, FEBRA2006519, FEBRA2028516, HCHON2000743,
 IMR322001879, NT2RI2009583, OCBBF2008144, PERIC2007068,
 PUAEN2006335, SPLEN2039379, TESTI2015626, TESTI4001984,
 15 TESTI4008058, TESTI4025268, TESTI4032090, THYMU3000360,
 TLIVE2002046, TRACH3000134, UTERU2021820, UTERU2028734

These genes are involved in Parkinson's disease.

Genes involved in short-term memory and dementia

20 In the brain, the hippocampus is a highly important memory-
 related area. The hippocampus functions to establish a memory
 by judging whether acquired information is necessary, and then
 accumulating the memory in another area of the brain. According
 to clinical findings, patients can retain a new memory for only
 25 about five minutes with an abnormal, or at the worst without a
 hippocampus. Some dementia patients are presumed to have
 hippocampus abnormalities. Thus, genes whose expression levels
 differ between tissues of the whole brain and the hippocampus
 are expected to be involved in memory or dementia. Such genes
 30 can be used to elucidate the mechanism underlying the memory and
 in gene diagnosis. cDNA libraries derived from the hippocampus
 (BRHIP) and from the whole tissues of a normal brain (BRAWH)
 were analyzed and compared (Table 6). Genes whose expression
 levels differed between the two were the 370 clones and 59
 35 clones listed below.

ASTRO1000009, BLADE2001371, BLADE2008398, BNGH42007788,
BRACE1000186, BRACE1000258, BRACE1000533, BRACE2005457,
BRACE2010489, BRACE2014657, BRACE2015058, BRACE2018762,
BRACE2030341, BRACE2035381, BRACE2044286, BRACE2045954,
5 BRACE3000787, BRACE3003192, BRACE3005499, BRACE3007480,
BRACE3009237, BRACE3009724, BRACE3009747, BRACE3010428,
BRACE3011271, BRACE3011421, BRACE3012364, BRACE3018963,
BRACE3022769, BRACE3026735, BRACE3031838, BRALZ2011796,
BRAMY2003008, BRAMY2005052, BRAMY2019300, BRAMY2019963,
10 BRAMY2031317, BRAMY2036567, BRAMY2037823, BRAMY2040592,
BRAMY2044078, BRAMY3002803, BRAMY3004224, BRAMY3005091,
BRAMY3009811, BRAWH1000127, BRAWH2001395, BRAWH2001671,
BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,
BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
15 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,
BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
20 BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,
25 BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2020710,
BRCAN2028355, BRCOC2003213, BRCOC2014033, BRCOC2020142,
BRHIP2000691, BRHIP2000819, BRHIP2000826, BRHIP2000920,
BRHIP2001074, BRHIP2001805, BRHIP2001927, BRHIP2002122,
30 BRHIP2002172, BRHIP2002346, BRHIP2003242, BRHIP2003786,
BRHIP2003917, BRHIP2004312, BRHIP2004359, BRHIP2004814,
BRHIP2004883, BRHIP2005236, BRHIP2005354, BRHIP2005600,
BRHIP2005719, BRHIP2005752, BRHIP2005932, BRHIP2006800,
BRHIP2007616, BRHIP2007741, BRHIP2009340, BRHIP2009414,
35 BRHIP2009474, BRHIP2013699, BRHIP2014228, BRHIP2021615,
BRHIP2022221, BRHIP2024146, BRHIP2024165, BRHIP2026061,

BRHIP2026288, BRHIP2029176, BRHIP2029393, BRHIP3000339,
 BRHIP3000526, BRHIP3001283, BRHIP3006683, BRHIP3007483,
 BRHIP3007586, BRHIP3008183, BRHIP3008313, BRHIP3008344,
 BRHIP3008405, BRHIP3008565, BRHIP3008598, BRHIP3008997,
 5 BRHIP3009099, BRHIP3009448, BRHIP3011241, BRHIP3013765,
 BRHIP3013897, BRHIP3015751, BRHIP3016213, BRHIP3018797,
 BRHIP3020182, BRHIP3024118, BRHIP3024533, BRHIP3024725,
 BRHIP3025161, BRHIP3025702, BRHIP3026097, BRHIP3027137,
 BRHIP3027854, BRSSN2000684, BRSSN2004719, BRSSN2008549,
 10 BRSSN2011738, BRSSN2014299, BRSTN2008052, BRSTN2015015,
 BRSTN2016470, BRSTN2018083, BRTHA1000311, BRTHA2002442,
 BRTHA2008335, BRTHA3000297, BRTHA3001721, BRTHA3002427,
 BRTHA3003490, BRTHA3005046, BRTHA3008520, BRTHA3008778,
 BRTHA3009090, BRTHA3015910, BRTHA3017848, COLON2001721,
 15 CTONG1000087, CTONG1000088, CTONG1000467, CTONG2000042,
 CTONG2008233, CTONG2009423, CTONG2017500, CTONG2019788,
 CTONG2028124, CTONG3000657, CTONG3001123, CTONG3001370,
 CTONG3002412, CTONG3004072, CTONG3008894, CTONG3009239,
 CTONG3009328, DFNES2011499, FCBBF2001183, FCBBF3001977,
 20 FEBRA2000253, FEBRA2007544, FEBRA2007801, FEBRA2008287,
 FEBRA2010719, FEBRA2020886, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000244, HCHON2000626, HCHON2001217,
 HCHON2002676, HCHON2005921, HCHON2006250, HEART1000074,
 HEART2007031, HHDPC1000118, HLUNG2002465, HLUNG2003003,
 25 IMR322000127, IMR322001380, IMR322002035, KIDNE2005543,
 KIDNE2006580, MESAN2006563, MESAN2012054, MESTC1000042,
 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 NT2RI2014733, NT2RI2018311, NT2RI3001515, NT2RI3002892,
 NT2RI3004510, NT2RI3005724, NT2RI3006284, NT2RI3006673,
 30 NT2RI3007291, NT2RI3007543, NT2RI3008055, NT2RP7005529,
 NT2RP7009147, NT2RP7014005, NT2RP7017474, OCBBF2001794,
 OCBBF2003819, OCBBF2006005, OCBBF2006151, OCBBF2006764,
 OCBBF2007028, OCBBF2007068, OCBBF2010140, OCBBF2020741,
 OCBBF2021286, OCBBF2024719, OCBBF2024850, OCBBF2028935,
 35 OCBBF2036743, OCBBF2038317, OCBBF3000296, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2005930,

PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2010912,
 SPLEN2012624, SPLEN2028914, SPLEN2031424, SPLEN2031547,
 SPLEN2034781, SPLEN2036932, SYNOV2014400, SYNOV4002346,
 SYNOV4002883, SYNOV4007430, SYNOV4008440, TESOP2002451,
 5 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4006137, TESTI4008797, TESTI4009286, TESTI4010377,
 TESTI4010851, TESTI4010928, TESTI4011161, TESTI4013817,
 TESTI4014159, TESTI4014694, TESTI4014818, TESTI4021478,
 TESTI4022936, TESTI4024420, TESTI4027821, TESTI4037156,
 10 THYMU2001090, THYMU2023967, THYMU2025707, THYMU2031341,
 THYMU2033308, THYMU2035735, THYMU2037226, THYMU2039315,
 THYMU3001234, THYMU3001379, THYMU3004835, THYMU3007137,
 THYMU3008171, TKIDN2009641, TKIDN2009889, TKIDN2015788,
 TRACH1000205, TRACH2001549, TRACH2005811, TRACH2006049,
 15 TRACH2007834, TRACH2008300, TRACH2025535, TRACH3000014,
 TRACH3001427, TRACH3002192, TRACH3004721, TRACH3005294,
 TRACH3007479, TRACH3008093, TRACH3009455, TUTER1000122,
 TUTER2000904, UTERU2004929, UTERU2006115, UTERU2019706,
 UTERU2021163, UTERU2023039, UTERU2026203, UTERU2030213,
 20 UTERU3001572, UTERU3003135, UTERU3005230, UTERU3007640,
 UTERU3009259, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 25 BRHIP2002722, BRHIP2003272, BRHIP2005271, BRHIP2005724,
 BRHIP2006617, BRHIP2008389, BRHIP2012360, BRHIP2017553,
 BRHIP2026877, BRHIP3000017, BRHIP3000240, BRHIP3008314,
 BRHIP3026052, BRTHA2018443, BRTHA3003000, CTONG2020374,
 CTONG2020378, CTONG2024031, CTONG3004726, FCBBF1000509,
 30 FEBRA2001990, FEBRA2006519, FEBRA2028516, HCHON2000743,
 IMR322001879, NT2RI2009583, OCBBF2006987, OCBBF2008144,
 OCBBF2030116, PERIC2007068, PUAEN2006335, SPLEN2039379,
 TESTI2015626, TESTI4000214, TESTI4001984, TESTI4008058,
 TESTI4013894, TESTI4025268, TESTI4025547, TESTI4026207,
 35 TESTI4032090, THYMU3000360, TLIVE2002046, TRACH3000134,
 UTERU2008040, UTERU2021820, UTERU2028734

These genes are involved in memory and dementia.

Genes involved in equilibrium sense and movement function

The cerebellum is the center of equilibrium sense, muscular movement, and motor learning. This area is thought to be involved in motor control, and smooth movements are achieved unconsciously due to cerebellum action. Recent studies have elucidated that the cerebellum participates in not only simple movements but also in establishing higher-order movements such as reading and writing. Thus, genes whose expression levels differ between tissues of the whole brain and the cerebellum are expected to be involved in equilibrium sense or motor function, which can be useful for elucidating the molecular mechanism controlled by the brain. cDNA libraries derived from the cerebellum (BRACE) and from the whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 7). Genes whose expression levels differed between the two were the 488 clones and 66 clones listed below.

ADRL2009146, ADRL2012038, ASTRO1000009, ASTRO2003960,
BLADE1000176, BLADE2004089, BLADE2008398, BRACE1000186,
BRACE1000258, BRACE1000533, BRACE1000572, BRACE2003639,
BRACE2005457, BRACE2006319, BRACE2008594, BRACE2010489,
BRACE2011747, BRACE2014306, BRACE2014475, BRACE2014657,
BRACE2015058, BRACE2015314, BRACE2016981, BRACE2018762,
BRACE2024627, BRACE2026836, BRACE2027258, BRACE2027970,
BRACE2028970, BRACE2029112, BRACE2029849, BRACE2030326,
BRACE2030341, BRACE2030884, BRACE2031154, BRACE2031389,
BRACE2031527, BRACE2031531, BRACE2031899, BRACE2032044,
BRACE2032329, BRACE2032385, BRACE2032538, BRACE2032823,
BRACE2033720, BRACE2035381, BRACE2035441, BRACE2036005,
BRACE2036096, BRACE2036830, BRACE2036834, BRACE2037847,
BRACE2038114, BRACE2038329, BRACE2038551, BRACE2039249,
BRACE2039327, BRACE2039475, BRACE2039734, BRACE2040138,
BRACE2040325, BRACE2041009, BRACE2041200, BRACE2041264,
BRACE2042550, BRACE2043142, BRACE2043248, BRACE2043349,
BRACE2043665, BRACE2044286, BRACE2044816, BRACE2044949,

BRACE2045300, BRACE2045428, BRACE2045596, BRACE2045772,
BRACE2045947, BRACE2045954, BRACE2046251, BRACE2046295,
BRACE2047011, BRACE2047350, BRACE2047377, BRACE2047385,
BRACE3000071, BRACE3000697, BRACE3000787, BRACE3000840,
5 BRACE3000973, BRACE3001002, BRACE3001217, BRACE3001391,
BRACE3001595, BRACE3001754, BRACE3002298, BRACE3002390,
BRACE3002508, BRACE3003004, BRACE3003192, BRACE3003595,
BRACE3003698, BRACE3004058, BRACE3004113, BRACE3004150,
BRACE3004358, BRACE3004435, BRACE3004772, BRACE3004783,
10 BRACE3004843, BRACE3004880, BRACE3005145, BRACE3005225,
BRACE3005430, BRACE3005499, BRACE3006185, BRACE3006226,
BRACE3006462, BRACE3006872, BRACE3007322, BRACE3007472,
BRACE3007480, BRACE3007559, BRACE3007625, BRACE3007642,
BRACE3007767, BRACE3008036, BRACE3008092, BRACE3008137,
15 BRACE3008384, BRACE3008720, BRACE3008772, BRACE3009090,
BRACE3009237, BRACE3009297, BRACE3009377, BRACE3009574,
BRACE3009701, BRACE3009708, BRACE3009724, BRACE3009747,
BRACE3010397, BRACE3010428, BRACE3011271, BRACE3011421,
BRACE3011505, BRACE3012364, BRACE3012930, BRACE3013119,
20 BRACE3013576, BRACE3013740, BRACE3013780, BRACE3014005,
BRACE3014068, BRACE3014231, BRACE3014317, BRACE3014807,
BRACE3015027, BRACE3015121, BRACE3015262, BRACE3015521,
BRACE3015894, BRACE3016884, BRACE3018308, BRACE3018963,
BRACE3019055, BRACE3019084, BRACE3020194, BRACE3020286,
25 BRACE3020594, BRACE3022769, BRACE3023912, BRACE3024073,
BRACE3024659, BRACE3024662, BRACE3025153, BRACE3025457,
BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026075,
BRACE3026735, BRACE3027242, BRACE3027326, BRACE3027478,
BRACE3030103, BRACE3031838, BRACE3032983, BRACE3040856,
30 BRACE3045033, BRALZ2011796, BRAMY2003008, BRAMY2005052,
BRAMY2019300, BRAMY2019963, BRAMY2020058, BRAMY2030098,
BRAMY2031317, BRAMY2036567, BRAMY2037823, BRAMY2039872,
BRAMY2040592, BRAMY2044078, BRAMY2047420, BRAMY3002620,
BRAMY3002803, BRAMY3004224, BRAMY3005091, BRAMY3005932,
35 BRAMY4000229, BRAWH1000127, BRAWH2001395, BRAWH2001671,
BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,

BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
 BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
 BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
 5 BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,
 BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
 BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
 BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
 BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
 10 BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
 BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,
 BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
 BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2009432,
 BRCAN2010376, BRCAN2015371, BRCAN2020710, BRCOC2003213,
 15 BRCOC2007034, BRCOC2014033, BRCOC2020142, BRHIP2000920,
 BRHIP2004359, BRHIP2005719, BRHIP2005752, BRHIP2007741,
 BRHIP2013699, BRHIP2014228, BRHIP2024146, BRHIP3000339,
 BRHIP3006683, BRHIP3007586, BRHIP3008313, BRHIP3008405,
 BRHIP3018797, BRSSN2000684, BRSSN2006892, BRSSN2011262,
 20 BRSSN2011738, BRSSN2014299, BRSTN2008052, BRSTN2010750,
 BRSTN2015015, BRSTN2016470, BRTHA1000311, BRTHA2008335,
 BRTHA2008955, BRTHA2011194, BRTHA3001721, BRTHA3002427,
 BRTHA3003490, BRTHA3008520, BRTHA3009090, BRTHA3017848,
 COLON2001721, CTONG2008233, CTONG2017500, CTONG2028124,
 25 CTONG3000657, CTONG3001123, CTONG3005813, CTONG3008894,
 CTONG3009328, DFNES2011499, FCBBF2001183, FCBBF3001977,
 FEBRA2006396, FEBRA2007544, FEBRA2007708, FEBRA2007801,
 FEBRA2008287, FEBRA2020886, FEBRA2021966, FEBRA2026984,
 FEBRA2028618, HCASM2007047, HCHON2000244, HCHON2000626,
 30 HCHON2001217, HCHON2002676, HCHON2005921, HCHON2006250,
 HEART1000074, HHDPC1000118, HLUNG2002465, IMR322000127,
 IMR322001380, IMR322002035, KIDNE2000665, KIDNE2006580,
 MESAN2006563, MESAN2012054, MESTC1000042, NB9N41000340,
 NESOP2001752, NOVAR2001783, NT2NE2006909, NT2RI2005166,
 35 NT2RI2008724, NT2RI2012659, NT2RI2014733, NT2RI2019751,
 NT2RI3002892, NT2RI3003382, NT2RI3004510, NT2RI3005724,

NT2RI3006284, NT2RI3006673, NT2RI3007291, NT2RI3007543,
 NT2RI3008055, NT2RP7004123, NT2RP7005529, NT2RP7009147,
 NT2RP7010599, NT2RP7014005, NT2RP7017474, NTONG2005969,
 OCBBF2001794, OCBBF2003819, OCBBF2006005, OCBBF2006151,
 5 OCBBF2006764, OCBBF2007028, OCBBF2010140, OCBBF2020343,
 OCBBF2020741, OCBBF2021286, OCBBF2022351, OCBBF2024850,
 OCBBF2025527, OCBBF2028935, OCBBF2036743, OCBBF2038317,
 OCBBF3000483, OCBBF3007516, OCBBF3008230, PEBLM2004666,
 PERIC2000889, PLACE6001185, PUAEN2002489, PUAEN2005930,
 10 PUAEN2006701, PUAEN2007044, PUAEN2009655, SPLEN2010912,
 SPLEN2012624, SPLEN2027268, SPLEN2028914, SPLEN2031424,
 SPLEN2031547, SPLEN2034781, SPLEN2036932, SPLEN2037194,
 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4007671, SYNOV4008440, TESOP2002273, TESOP2002451,
 15 TESOP2002950, TESTI1000330, TESTI4000014, TESTI4000209,
 TESTI4000349, TESTI4001100, TESTI4001561, TESTI4006137,
 TESTI4008797, TESTI4009286, TESTI4010851, TESTI4011161,
 TESTI4013675, TESTI4013817, TESTI4014159, TESTI4014306,
 TESTI4014694, TESTI4021478, TESTI4022936, TESTI4024420,
 20 TESTI4027821, TESTI4037156, TESTI4046819, THYMU2001090,
 THYMU2016523, THYMU2023967, THYMU2030264, THYMU2033308,
 THYMU2035735, THYMU2039315, THYMU2039780, THYMU3001083,
 THYMU3001234, THYMU3003309, THYMU3006485, THYMU3008171,
 TKIDN2009641, TKIDN2009889, TKIDN2015788, TRACH1000205,
 25 TRACH2001549, TRACH2005811, TRACH2006049, TRACH2007834,
 TRACH2008300, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004721, TRACH3005294, TRACH3006038, TRACH3006412,
 TRACH3007479, TRACH3008093, TRACH3009455, TUTER2000904,
 UTERU2002410, UTERU2006115, UTERU2007520, UTERU2019706,
 30 UTERU2023039, UTERU2026203, UTERU3000226, UTERU3001572,
 UTERU3005230, UTERU3005460, UTERU3005970, UTERU3006308,
 UTERU3007419, UTERU3007640, UTERU3007913, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2002589, BRACE2003609,
 BRACE2009318, BRACE2011677, BRACE2029396, BRACE2037299,
 35 BRACE2039823, BRACE2039832, BRACE2043105, BRACE3001058,
 BRACE3001113, BRACE3003026, BRACE3003053, BRACE3009127,

BRACE3010076, BRACE3015829, BRACE3021148, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRCOC2019841, BRHIP2005271, BRHIP3000017, BRHIP3000240,
 5 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000743, IMR322001879, NT2RI2009583,
 NT2RP8000521, OCBBF2008144, OCBBF2011669, PERIC2007068,
 PUAEN2006335, SPLEN2039379, SYNOV2021953, TESTI2015626,
 10 TESTI4001984, TESTI4008058, TESTI4013894, TESTI4025268,
 TESTI4032090, THYMU2004284, THYMU2040925, THYMU3000360,
 TLIVE2002046, TRACH3000134, UTERU2008040, UTERU2011220,
 UTERU2021820, UTERU2028734

These genes are involved in equilibrium sense or motor
 15 function.

Genes involved in signaling from sensory organs

The thalamus is an area which comprises many neurons
 strongly connected to the cerebrum, and which transmits sensory
 20 information from the spinal cord or such to the responsible area
 of the cerebrum. The thalamus also controls the direction of
 movement from the cerebrum. For example, the thalamus resolves
 vision into the elements of size, shape, and color, and resolves
 sound into volume and sweetness or harshness to the ear, and
 25 then transmits this information to the sensory area of the
 cerebral cortex. Thus, genes whose expression levels differ
 between tissues of the whole brain and the thalamus are expected
 to be involved in signaling from sensory organs. These genes
 can be used to elucidate the molecular mechanism underlying
 30 signaling controlled by the brain. cDNA libraries derived from
 the thalamus (BRTHA) and from whole tissues of a normal brain
 (BRAWH) were analyzed and compared (Table 8). Genes whose
 expression levels differed between the two were the 412 clones
 and 56 clones listed below.

35 ASTRO1000009, ASTRO3000482, BLADE2008398, BRACE1000186,
 BRACE1000258, BRACE1000533, BRACE2005457, BRACE2010489,

BRACE2014306, BRACE2014657, BRACE2015058, BRACE2031154,
 BRACE2035381, BRACE2044286, BRACE2045954, BRACE3000787,,
 BRACE3003192, BRACE3005499, BRACE3007480, BRACE3008384,
 BRACE3009237, BRACE3009724, BRACE3009747, BRACE3010397,
 5 BRACE3010428, BRACE3011271, BRACE3011421, BRACE3012364,
 BRACE3022769, BRACE3026735, BRACE3027478, BRACE3031838,
 BRALZ2011796, BRAMY2003008, BRAMY2005052, BRAMY2019300,
 BRAMY2019963, BRAMY2028914, BRAMY2031317, BRAMY2036567,
 BRAMY2037823, BRAMY2040592, BRAMY2044078, BRAMY3002803,
 10 BRAMY3004224, BRAMY3005091, BRAMY4000229, BRAWH1000127,
 BRAWH2001395, BRAWH2001671, BRAWH2001940, BRAWH2001973,
 BRAWH2002560, BRAWH2002761, BRAWH2005315, BRAWH2007658,
 BRAWH2010000, BRAWH2010084, BRAWH2010536, BRAWH2012162,
 BRAWH2012326, BRAWH2013294, BRAWH2013871, BRAWH2014414,
 15 BRAWH2014645, BRAWH2014662, BRAWH2014876, BRAWH2014954,
 BRAWH2016221, BRAWH2016439, BRAWH2016702, BRAWH2016724,
 BRAWH3000078, BRAWH3000100, BRAWH3000314, BRAWH3000491,
 BRAWH3001326, BRAWH3001475, BRAWH3001891, BRAWH3002574,
 BRAWH3002600, BRAWH3002819, BRAWH3002821, BRAWH3003522,
 20 BRAWH3003555, BRAWH3003727, BRAWH3003801, BRAWH3003992,
 BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005422,
 BRAWH3005912, BRAWH3005981, BRAWH3006548, BRAWH3006792,
 BRAWH3007221, BRAWH3007506, BRAWH3007592, BRAWH3007726,
 BRAWH3007783, BRAWH3008341, BRAWH3008697, BRAWH3008931,
 25 BRAWH3009297, BRCAN2006297, BRCOC2003213, BRCOC2014033,
 BRCOC2020142, BRHIP2000819, BRHIP2000920, BRHIP2005719,
 BRHIP2007741, BRHIP2009474, BRHIP2013699, BRHIP2014228,
 BRHIP2022221, BRHIP2024146, BRHIP3000339, BRHIP3006683,
 BRHIP3007586, BRHIP3008405, BRHIP3018797, BRSSN2000684,
 30 BRSSN2008549, BRSSN2008797, BRSSN2011738, BRSSN2014299,
 BRSTN2004863, BRSTN2008052, BRSTN2015015, BRSTN2016470,
 BRTHA1000311, BRTHA2000855, BRTHA2001462, BRTHA2002115,
 BRTHA2002281, BRTHA2002376, BRTHA2002442, BRTHA2002493,
 BRTHA2002608, BRTHA2002808, BRTHA2003030, BRTHA2003110,
 35 BRTHA2003116, BRTHA2003461, BRTHA2004821, BRTHA2004978,
 BRTHA2005579, BRTHA2005956, BRTHA2006075, BRTHA2006146,

BRTHA2006194, BRTHA2007122, BRTHA2007422, BRTHA2007603,
 BRTHA2008316, BRTHA2008335, BRTHA2008527, BRTHA2008535,
 BRTHA2008955, BRTHA2009311, BRTHA2009846, BRTHA2009972,
 BRTHA2010073, BRTHA2010608, BRTHA2010884, BRTHA2010907,
 5 BRTHA2011194, BRTHA2011351, BRTHA2011500, BRTHA2011641,
 BRTHA2012392, BRTHA2012562, BRTHA2012980, BRTHA2013262,
 BRTHA2013460, BRTHA2013707, BRTHA2014792, BRTHA2014828,
 BRTHA2015406, BRTHA2015478, BRTHA2015696, BRTHA2015878,
 BRTHA2016215, BRTHA2016496, BRTHA2016543, BRTHA2017353,
 10 BRTHA2017985, BRTHA2018165, BRTHA2018344, BRTHA2018591,
 BRTHA2018624, BRTHA2018707, BRTHA2019014, BRTHA2019022,
 BRTHA2019048, BRTHA3000273, BRTHA3000297, BRTHA3000633,
 BRTHA3001721, BRTHA3002401, BRTHA3002427, BRTHA3002933,
 BRTHA3003074, BRTHA3003343, BRTHA3003449, BRTHA3003474,
 15 BRTHA3003490, BRTHA3004475, BRTHA3005046, BRTHA3006856,
 BRTHA3007113, BRTHA3007148, BRTHA3007319, BRTHA3007769,
 BRTHA3008143, BRTHA3008310, BRTHA3008386, BRTHA3008520,
 BRTHA3008778, BRTHA3009037, BRTHA3009090, BRTHA3009291,
 BRTHA3010366, BRTHA3013884, BRTHA3015815, BRTHA3015910,
 20 BRTHA3016845, BRTHA3016917, BRTHA3017047, BRTHA3017589,
 BRTHA3017848, BRTHA3018514, BRTHA3018617, BRTHA3018656,
 BRTHA3019105, COLON2001721, CTONG1000087, CTONG2008233,
 CTONG2017500, CTONG2019788, CTONG2023021, CTONG2028124,
 CTONG3000657, CTONG3001123, CTONG3008894, CTONG3009028,
 25 CTONG3009239, CTONG3009328, FCBBF2001183, FCBBF3001977,
 FCBBF3021576, FEBRA2007544, FEBRA2007801, FEBRA2008287,
 FEBRA2008360, FEBRA2020886, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000212, HCHON2000244, HCHON2000626,
 HCHON2001084, HCHON2001217, HCHON2002676, HCHON2005921,
 30 HCHON2006250, HEART1000074, HEART2007031, HHDPC1000118,
 HLUNG2001996, HLUNG2002465, IMR322000127, IMR322001380,
 IMR322002035, KIDNE2002252, KIDNE2005543, KIDNE2006580,
 KIDNE2011314, MESAN2006563, MESAN2012054, MESTC1000042,
 NOVAR2001783, NT2NE2006909, NT2RI2008724, NT2RI2012659,
 35 NT2RI2014733, NT2RI3002842, NT2RI3002892, NT2RI3005403,
 NT2RI3006284, NT2RI3006673, NT2RI3007543, NT2RI3008055,

NT2RP7004123, NT2RP7005529, NT2RP7009147, NT2RP7014005,
 NT2RP7017474, NTONG2005969, NTONG2008088, OCBBF2001794,
 OCBBF2006005, OCBBF2006764, OCBBF2007028, OCBBF2010140,
 OCBBF2020639, OCBBF2021286, OCBBF2024719, OCBBF2024850,
 5 OCBBF2028935, OCBBF2036743, OCBBF2038317, OCBBF3000483,
 OCBBF3008230, PEBLM2004666, PLACE6001185, PUAEN2002489,
 PUAEN2005930, PUAEN2006701, PUAEN2007044, PUAEN2009655,
 RECTM2001347, SKMUS2000757, SPLEN2006122, SPLEN2010912,
 SPLEN2025491, SPLEN2028914, SPLEN2031424, SPLEN2031547,
 10 SPLEN2032154, SPLEN2034781, SPLEN2036821, SPLEN2036932,
 SYNOV1000374, SYNOV2014400, SYNOV4002346, SYNOV4002883,
 SYNOV4007430, SYNOV4007671, SYNOV4008440, TESOP2002451,
 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4001100,
 TESTI4002290, TESTI4006137, TESTI4008797, TESTI4009286,
 15 TESTI4010851, TESTI4012702, TESTI4013817, TESTI4014159,
 TESTI4014694, TESTI4021478, TESTI4022936, TESTI4024420,
 TESTI4027821, TESTI4037156, THYMU2001090, THYMU2025707,
 THYMU2032825, THYMU2033308, THYMU2033787, THYMU2035735,
 THYMU2039315, THYMU2040975, THYMU3001234, THYMU3001379,
 20 THYMU3004835, THYMU3008171, TKIDN2009641, TKIDN2009889,
 TKIDN2015788, TLIVE2001327, TRACH1000205, TRACH2001549,
 TRACH2005811, TRACH2006049, TRACH2007834, TRACH2008300,
 TRACH2023299, TRACH2025535, TRACH3001427, TRACH3002192,
 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3007479,
 25 TRACH3008093, TRACH3009455, TSTOM1000135, TUTER2000904,
 UTERU2002410, UTERU2006115, UTERU2019706, UTERU2019940,
 UTERU2023039, UTERU2023175, UTERU2026203, UTERU2030280,
 UTERU3000899, UTERU3001571, UTERU3001572, UTERU3004709,
 UTERU3005230, UTERU3005907, UTERU3007640, UTERU3009871
 30 ADRGL2000042, BLADE2006830, BRACE2003609, BRAMY3004800,
 BRAWH1000369, BRAWH2006207, BRAWH2006395, BRAWH2008993,
 BRAWH2009393, BRAWH2010552, BRAWH3007441, BRAWH3009017,
 BRHIP2005271, BRHIP3000017, BRTHA2002133, BRTHA2002702,
 BRTHA2007060, BRTHA2010033, BRTHA2011321, BRTHA2013426,
 35 BRTHA2013610, BRTHA2016318, BRTHA2017364, BRTHA2017972,
 BRTHA2018011, BRTHA2018443, BRTHA3000296, BRTHA3003000,

BRTHA3008826, CTONG2008721, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 FEBRA2028516, HCHON2000743, HSYRA2005628, IMR322001879,
 NT2RI2009583, OCBBF2008144, PERIC2007068, PUAEN2006335,
 5 SPLEN2016932, SPLEN2039379, SYNOV2006620, TESTI4001984,
 TESTI4008058, TESTI4025268, TESTI4032090, THYMU3000360,
 TLIVE2002046, TRACH3000134, UTERU2021820, UTERU2028734

These genes are involved in signaling from sensory organs.

10 Genes involved in emotional reaction

The amygdala is the center of emotion in the brain. Information passing through the amygdala induces an emotional reaction, for example, panic or fear. When a strong fear reaction is produced due to the emotional evaluation of stimulus
 15 in the amygdala, the amygdala transmits an alert signal to each area of the brain. This results in various reactions such as sweating palms, palpitation, elevated blood pressure, and rapid secretion of adrenaline. In other words, the amygdala transmits signals which cause the body to be on the alert and is a tissue
 20 involved in a kind of defense instinct. Thus, genes whose expression levels differ between tissues of the whole brain and the amygdala are expected to be involved in emotional reaction. Such genes can be used to elucidate the molecular mechanism underlying emotional reaction, fear, or panic. cDNA libraries
 25 derived from the amygdale (BRAMY) and from whole tissues of a normal brain (BRAWH) were analyzed and compared (Table 9). Genes whose expression levels differed between the two were the 383 clones and 55 clones listed below.

ASTRO1000009, BLADE2008398, BRACE1000186, BRACE1000258,
 30 BRACE1000533, BRACE2005457, BRACE2006319, BRACE2010489,
 BRACE2014657, BRACE2015058, BRACE2027258, BRACE2030341,
 BRACE2031389, BRACE2035381, BRACE2044286, BRACE2045954,
 BRACE3000787, BRACE3000973, BRACE3003192, BRACE3005499,
 BRACE3007480, BRACE3008036, BRACE3009237, BRACE3009724,
 35 BRACE3009747, BRACE3010428, BRACE3011271, BRACE3011421,
 BRACE3012364, BRACE3013780, BRACE3022769, BRACE3026735,

BRACE3027478, BRACE3031838, BRALZ2011796, BRAMY2001473,
 BRAMY2003008, BRAMY2004771, BRAMY2005052, BRAMY2017528,
 BRAMY2019300, BRAMY2019963, BRAMY2019985, BRAMY2020058,
 BRAMY2020270, BRAMY2021498, BRAMY2028856, BRAMY2028914,
 5 BRAMY2029602, BRAMY2030098, BRAMY2030109, BRAMY2030702,
 BRAMY2030703, BRAMY2030799, BRAMY2031317, BRAMY2031377,
 BRAMY2031442, BRAMY2032014, BRAMY2032242, BRAMY2032317,
 BRAMY2033003, BRAMY2033116, BRAMY2033267, BRAMY2033594,
 BRAMY2034185, BRAMY2034920, BRAMY2034993, BRAMY2036387,
 10 BRAMY2036396, BRAMY2036567, BRAMY2036699, BRAMY2036913,
 BRAMY2037823, BRAMY2038100, BRAMY2038484, BRAMY2038846,
 BRAMY2038904, BRAMY2039872, BRAMY2040478, BRAMY2040592,
 BRAMY2041261, BRAMY2041378, BRAMY2041542, BRAMY2042612,
 BRAMY2042641, BRAMY2042760, BRAMY2042918, BRAMY2044078,
 15 BRAMY2044246, BRAMY2045036, BRAMY2046478, BRAMY2046742,
 BRAMY2046989, BRAMY2047169, BRAMY2047420, BRAMY2047676,
 BRAMY2047746, BRAMY2047751, BRAMY2047765, BRAMY2047884,
 BRAMY3000206, BRAMY3000213, BRAMY3001401, BRAMY3001794,
 BRAMY3002312, BRAMY3002620, BRAMY3002803, BRAMY3002805,
 20 BRAMY3004224, BRAMY3004672, BRAMY3004900, BRAMY3004919,
 BRAMY3005091, BRAMY3005932, BRAMY3006297, BRAMY3007206,
 BRAMY3007609, BRAMY3008466, BRAMY3008505, BRAMY3008650,
 BRAMY3009811, BRAMY3010411, BRAMY4000095, BRAMY4000229,
 BRAMY4000277, BRAWH1000127, BRAWH2001395, BRAWH2001671,
 25 BRAWH2001940, BRAWH2001973, BRAWH2002560, BRAWH2002761,
 BRAWH2005315, BRAWH2007658, BRAWH2010000, BRAWH2010084,
 BRAWH2010536, BRAWH2012162, BRAWH2012326, BRAWH2013294,
 BRAWH2013871, BRAWH2014414, BRAWH2014645, BRAWH2014662,
 BRAWH2014876, BRAWH2014954, BRAWH2016221, BRAWH2016439,
 30 BRAWH2016702, BRAWH2016724, BRAWH3000078, BRAWH3000100,
 BRAWH3000314, BRAWH3000491, BRAWH3001326, BRAWH3001475,
 BRAWH3001891, BRAWH3002574, BRAWH3002600, BRAWH3002819,
 BRAWH3002821, BRAWH3003522, BRAWH3003555, BRAWH3003727,
 BRAWH3003801, BRAWH3003992, BRAWH3004453, BRAWH3004666,
 35 BRAWH3005132, BRAWH3005422, BRAWH3005912, BRAWH3005981,
 BRAWH3006548, BRAWH3006792, BRAWH3007221, BRAWH3007506,

BRAWH3007592, BRAWH3007726, BRAWH3007783, BRAWH3008341,
 BRAWH3008697, BRAWH3008931, BRAWH3009297, BRCAN2014881,
 BRCAN2017717, BRCOC2000670, BRCOC2003213, BRCOC2014033,
 BRCOC2020142, BRHIP2000920, BRHIP2005719, BRHIP2007741,
 5 BRHIP2014228, BRHIP2024146, BRHIP2026061, BRHIP3000339,
 BRHIP3001283, BRHIP3006683, BRHIP3007586, BRHIP3008405,
 BRHIP3018797, BRSSN2000684, BRSSN2004496, BRSSN2011738,
 BRSSN2014299, BRSTN2008052, BRSTN2010750, BRSTN2015015,
 BRSTN2016470, BRTHA1000311, BRTHA2008335, BRTHA2011641,
 10 BRTHA3001721, BRTHA3002427, BRTHA3003490, BRTHA3004475,
 BRTHA3008520, BRTHA3009090, BRTHA3017848, COLON2001721,
 CTONG1000087, CTONG2008233, CTONG2017500, CTONG2028124,
 CTONG3000657, CTONG3001123, CTONG3008894, CTONG3009239,
 CTONG3009328, FCBBF2001183, FCBBF3001977, FEBRA2007544,
 15 FEBRA2007801, FEBRA2008287, FEBRA2010719, FEBRA2020886,
 FEBRA2025427, FEBRA2028618, HCASM2007047, HCHON2000244,
 HCHON2000626, HCHON2001217, HCHON2002676, HCHON2006250,
 HCHON2008112, HEART1000074, HHDPC1000118, HLUNG2002465,
 HSYRA2009075, IMR322000127, IMR322001380, IMR322002035,
 20 KIDNE2000665, KIDNE2006580, MESAN2006563, MESAN2012054,
 MESAN2015515, MESTC1000042, NOVAR2001783, NT2NE2005890,
 NT2NE2006909, NT2RI2008724, NT2RI2012659, NT2RI2014733,
 NT2RI3001515, NT2RI3002892, NT2RI3005724, NT2RI3006284,
 NT2RI3006673, NT2RI3007543, NT2RI3008055, NT2RP7005529,
 25 NT2RP7009147, NT2RP7014005, NT2RP7017474, NTONG2005969,
 OCBBF1000254, OCBBF2001794, OCBBF2006005, OCBBF2006764,
 OCBBF2007028, OCBBF2007114, OCBBF2010140, OCBBF2021286,
 OCBBF2023162, OCBBF2024850, OCBBF2028935, OCBBF2035214,
 OCBBF2036743, OCBBF2038317, OCBBF3000483, OCBBF3008230,
 30 PEBLM2004666, PERIC2000889, PERIC2003720, PLACE6001185,
 PUAEN2005930, PUAEN2006701, PUAEN2007044, PUAEN2009174,
 PUAEN2009655, SKNMC2002402, SKNSH2000482, SPLEN2001599,
 SPLEN2002467, SPLEN2028914, SPLEN2029912, SPLEN2031424,
 SPLEN2031547, SPLEN2034781, SPLEN2036932, SPLEN2038345,
 35 SYNOV2014400, SYNOV4002346, SYNOV4002883, SYNOV4007430,
 SYNOV4007671, SYNOV4008440, TESOP2002451, TESTI2009474,

TESTI4000014, TESTI4000209, TESTI4001100, TESTI4006137,
 TESTI4008797, TESTI4009286, TESTI4010851, TESTI4013817,
 TESTI4014159, TESTI4014694, TESTI4021478, TESTI4022936,
 TESTI4024420, TESTI4027821, TESTI4029836, TESTI4037156,
 5 TESTI4037188, THYMU2001090, THYMU2014353, THYMU2033308,
 THYMU2035735, THYMU2037226, THYMU2039315, THYMU3001234,
 THYMU3001379, THYMU3004835, THYMU3008171, TKIDN2009641,
 TKIDN2009889, TKIDN2015788, TLIVE2004320, TRACH1000205,
 TRACH2001549, TRACH2001684, TRACH2005811, TRACH2006049,
 10 TRACH2007834, TRACH2008300, TRACH2025344, TRACH2025535,
 TRACH2025911, TRACH3001427, TRACH3002192, TRACH3004068,
 TRACH3004721, TRACH3005294, TRACH3007479, TRACH3008093,
 TRACH3009455, TUTER2000904, UTERU2002410, UTERU2004929,
 UTERU2006115, UTERU2007520, UTERU2019706, UTERU2023039,
 15 UTERU2026203, UTERU3001572, UTERU3001766, UTERU3005230,
 UTERU3007640, UTERU3009517, UTERU3009871
 ADRGL2000042, BLADE2006830, BRACE2003609, BRACE2039823,
 BRAMY2019111, BRAMY2035070, BRAMY2035449, BRAMY2035718,
 BRAMY2038516, BRAMY2039341, BRAMY2040159, BRAMY2041434,
 20 BRAWH2045471, BRAWH2004800, BRAWH1000369, BRAWH2006207,
 BRAWH2006395, BRAWH2008993, BRAWH2009393, BRAWH2010552,
 BRAWH3007441, BRAWH3009017, BRHIP2005271, BRHIP3000017,
 BRTHA2018443, BRTHA3003000, CTONG2020374, CTONG2020378,
 CTONG2024031, FCBBF1000509, FEBRA2001990, FEBRA2006519,
 25 FEBRA2028516, HCHON2000508, HCHON2000743, IMR322001879,
 NT2RI2009583, OCBBF2008144, PERIC2007068, PUAEN2006335,
 SPLEN2039379, TESTI2015626, TESTI2026647, TESTI4001984,
 TESTI4008058, TESTI4013894, TESTI4025268, TESTI4032090,
 THYMU3000360, TKIDN2018926, TLIVE2002046, TRACH3000134,
 30 UTERU2008040, UTERU2021820, UTERU2028734

These genes are involved in emotional reaction.

Cancer-related genes

35 Cancer tissues are assumed to express a distinct set of
 genes distinct from normal tissues, and thus expression of these
 genes can contribute to carcinogenesis in tissues and cells.

Thus, genes whose expression patterns in cancer tissues differ from those in normal tissues are cancer-related genes. A search was carried out for genes whose expression levels in cancer tissues differed from those in normal tissues.

5 The result of comparative analysis of cDNA libraries derived from breast tumor (TBAES) and normal breast (BEAST) (Table 10) showed that the genes whose expression levels differed between the two were 35 and four clones as described below.

10 ASTRO2002842, BRACE3016884, BRSSN2011262, BRTHA2008335,
HCHON2000244, HCHON2006250, HEART1000010, MESAN2012054,
NT2RP7000466, NT2RP7009147, OCBBF2021020, PEBLM2002749,
PEBLM2004666, SPLEN2001599, SPLEN2031547, STOMA1000189,
TBAES2001171, TBAES2001220, TBAES2001229, TBAES2001258,
15 TBAES2001492, TBAES2001751, TBAES2002197, TBAES2003550,
TBAES2004055, TBAES2005157, TBAES2005543, TBAES2006568,
TBAES2007964, TESTI4000014, TESTI4037156, TRACH3002192,
TRACH3004068, TSTOM2000553, UTERU2002410
BRAWH2006395, NT2RI2009583, STOMA2004893, TBAES2000932

20 The result of comparative analysis of cDNA libraries derived from cervical tumor (TCERX) and normal cervical duct (CERVX) (Table 11) showed that the genes whose expression levels differed between the two were twelve and two clones as described below.

25 BLADE2007666, BRAMY2047420, BRCAN2007409, BRSTN2016470,
CERVX1000042, CERVX2002006, MESAN2006563, PROST2018090,
TCERX2000613, TESTI4037156, THYMU2031341, UTERU2004688
CERVX2002013, NT2RI2009583

30 The result of comparative analysis of cDNA libraries derived from colon tumor (TCOLN) and normal colon (COLON) (Table 12) showed that the genes whose expression levels were different between the two were 24 and four clones as described below.

BRACE3015027, BRAMY2040592, BRSTN2016470, COLON1000030,
COLON2000470, COLON2000568, COLON2001721, COLON2002443,
35 COLON2002520, COLON2003043, COLON2004478, COLON2005126,
COLON2005772, COLON2006282, COLON2009499, OCBBF2028935,

PLACE7000514, RECTM2000433, SYNOV4007671, TCOLN2002278,
 TESTI2052693, TESTI4037156, THYMU2031368, TRACH2025535
 CTONG1000113, NT2RI2009583, NT2RI2018448, TESTI2015626

The result of comparative analysis of cDNA libraries
 5 derived from esophageal tumor (TESOP) and normal esophagus
 (NESOP) (Table 13) showed that the genes whose expression levels
 were different between the two were 56 and ten clones as
 described below.

BRACE2030341, BRAMY2047420, BRHIP2003917, BRTHA2003461,
 10 CTONG2013178, D3OST3000169, FEBRA2025427, HCHON2000244,
 HHDP1000118, NESOP2000744, NESOP2001433, NESOP2001656,
 NESOP2001694, NESOP2001752, NESOP2002738, NT2RI3006284,
 NT2RP7009147, PLACE6019932, SYNOV2005216, TESOP1000127,
 TESOP2000801, TESOP2001122, TESOP2001166, TESOP2001345,
 15 TESOP2001605, TESOP2001818, TESOP2001849, TESOP2001865,
 TESOP2001953, TESOP2002273, TESOP2002451, TESOP2002489,
 TESOP2002539, TESOP2002950, TESOP2003273, TESOP2003753,
 TESOP2004114, TESOP2005285, TESOP2005485, TESOP2005579,
 TESOP2006041, TESOP2006060, TESOP2006068, TESOP2006670,
 20 TESOP2006746, TESOP2007052, TESOP2007262, TESOP2007636,
 TESOP2007688, TESOP2009121, TESOP2009555, TESTI4009286,
 TESTI4010851, THYMU2040975, TRACH2005811, UTERU2023175
 CTONG2016942, NT2RI2009583, TESOP2000390, TESOP2001796,
 TESOP2005199, TESOP2006398, TESOP2006865, TESOP2007384,
 25 TESTI2015626, TRACH2000862

The result of comparative analysis of cDNA libraries
 derived from kidney tumor (TKIDN) and normal kidney (KIDNE)
 (Table 14) showed that the genes whose expression levels were
 different between the two were 96 and 13 clones as described
 30 below.

ASTRO2018373, BRACE1000186, BRACE2014306, BRACE2015058,
 BRACE2016981, BRACE2043665, BRACE3008036, BRACE3010428,
 BRACE3022769, BRAMY2019963, BRAMY2044078, BRAWH1000127,
 BRAWH2001395, BRAWH2001671, BRAWH2013294, BRAWH2014645,
 35 BRHIP2024146, BRHIP3000339, BRSSN2000684, BRSSN2004719,
 BRSSN2018581, BRSTN2016470, BRTHA1000311, BRTHA3002427,

CTONG1000087, CTONG2028124, CTONG3000657, CTONG3008894,
 FCBBF2001183, FEBRA2008287, HCASM2001301, HCHON2000028,
 HCHON2000244, HEART1000074, HHDPC1000118, HSYRA2008376,
 KIDNE1000064, KIDNE2000665, KIDNE2000722, KIDNE2000832,
 5 KIDNE2000846, KIDNE2001361, KIDNE2001847, KIDNE2002252,
 KIDNE2002991, KIDNE2003837, KIDNE2005543, KIDNE2006580,
 KIDNE2010264, KIDNE2011314, KIDNE2011532, KIDNE2011635,
 KIDNE2012945, KIDNE2013095, NESOP2001656, NTONG2005969,
 PEBLM2004666, SKMUS2000757, STOMA1000189, SYNOV4007671,
 10 TBAES2001258, TESTI4000014, TESTI4001100, TESTI4012702,
 TESTI4046819, THYMU2032014, TKIDN2000701, TKIDN2002424,
 TKIDN2002632, TKIDN2003044, TKIDN2004386, TKIDN2005934,
 TKIDN2005947, TKIDN2006525, TKIDN2006852, TKIDN2007667,
 TKIDN2009092, TKIDN2009641, TKIDN2009889, TKIDN2010934,
 15 TKIDN2012824, TKIDN2013287, TKIDN2014757, TKIDN2014771,
 TKIDN2015263, TKIDN2015788, TKIDN2016309, TKIDN2019116,
 TRACH2001443, TRACH2001684, TRACH2007834, TRACH2008300,
 TRACH3001427, UTERU2002410, UTERU2023175, UTERU3001572
 BLADE2006830, BRALZ2017844, CTONG2028758, FCBBF1000509,
 20 FEBRA2001990, FEBRA2028516, HCHON2000508, MESAN2005303,
 NT2RI2009583, TESTI2015626, TKIDN2008778, TKIDN2012771,
 TKIDN2018926

The result of comparative analysis of cDNA libraries
 derived from liver tumor (TLIVE) and normal liver (LIVER) (Table
 25 15) showed that the genes whose expression levels were different
 between the two were 35 and six clones as described below.

BRCAN2018935, BRSTN2016470, BRTHA2012980, BRTHA3002427,
 CTONG2028124, LIVER2007415, NT2RI2008724, SPLEN2012624,
 SPLEN2033098, TESOP2002451, TLIVE2000023, TLIVE2001327,
 30 TLIVE2001828, TLIVE2001927, TLIVE2002336, TLIVE2002338,
 TLIVE2002690, TLIVE2003197, TLIVE2003225, TLIVE2003381,
 TLIVE2003970, TLIVE2004110, TLIVE2004320, TLIVE2004601,
 TLIVE2005180, TLIVE2006236, TLIVE2006529, TLIVE2007132,
 TLIVE2007528, TLIVE2007816, TLIVE2008083, TLIVE2008229,
 35 TLIVE2009541, UTERU2002410, UTERU2005621

LIVER2000247, NT2RI2009583, TESTI2015626, TLIVE2001684,
TLIVE2002046, TLIVE2007607

The result of comparative analysis of cDNA libraries derived from lung tumor (TLUNG) and normal lung (HLUNG) (Table 16) showed that the genes whose expression levels were different between the two were 47 and nine clones as described below.

5 BRCAN2021028, BRHIP2000819, BRSTN2016470, CTONG1000087,
CTONG2028124, HCHON2006250, HEART1000074, HLUNG1000017,
HLUNG2000014, HLUNG2001996, HLUNG2002465, HLUNG2002958,
10 HLUNG2003003, HLUNG2003872, HLUNG2010464, HLUNG2011041,
HLUNG2011298, HLUNG2012049, HLUNG2012287, HLUNG2012727,
HLUNG2013204, HLUNG2013304, HLUNG2013622, HLUNG2013851,
HLUNG2014262, HLUNG2014288, HLUNG2014449, HLUNG2015617,
HLUNG2017350, HLUNG2017546, HLUNG2017806, HLUNG2019058,
15 HSYRA2008376, KIDNE2012945, NT2RI2003993, NT2RP7013795,
OCBBF3000483, SPLEN2028914, SPLEN2031547, SYNOV4007671,
TESOP1000127, TESTI2003573, TESTI4000014, TESTI4037156,
TRACH2005811, TRACH3004068, UTERU2005621
FEBRA2028516, HCHON2000508, HLUNG2013350, HLUNG2015418,
20 HLUNG2015548, HLUNG2016862, NT2RI2009583, TESTI2015626,
TRACH2019672

The result of comparative analysis of cDNA libraries derived from ovary tumor (TOVER) and normal ovary (NOVER) (Table 17A) showed the genes whose expression levels were different between the two were 16 clones as described below.

25 CTONG2019788, FEBRA2014213, HLUNG2017546, NOVAR2000136,
NOVAR2000710, NOVAR2000962, NOVAR2001108, NOVAR2001783,
OCBBF3007516, TESTI2052693, TOVAR2000649, TOVAR2001281,
TOVAR2001730, TOVAR2002247, TOVAR2002549, TRACH3004068

30 The result of comparative analysis of cDNA libraries derived from ovary tumor (TOVER) and normal ovary (NOVER) (Table 17B) showed the gene whose expression levels were different between the two was one clone as described below. The gene has no different expression levels between normal and diseased ovary.
35 However, the gene showed significantly different expression level in both ovary tumor and normal ovary, compared with other

tissues. Thus, the gene are ovary-specific gene and can be used as diagnostic marker because its association with the disease.

TESTI2015626

The result of comparative analysis of cDNA libraries derived from stomach tumor (TSTOM) and normal stomach (STOMA) (Table 18) showed that the genes whose expression levels were different between the two were 31 and five clones as described below.

BRACE2024627, BRAWH2014645, BRCAN2028355, BRHIP2000819,
 10 BRSTN2016470, BRTHA3003490, COLON2002443, HEART1000010,
 HLUNG2002465, KIDNE2001847, NT2RP7000466, PUAEN2006328,
 SMINT2001818, STOMA1000189, STOMA2003444, STOMA2004294,
 STOMA2004925, STOMA2008546, SYNOV4007671, TESTI4000014,
 TESTI4010851, THYMU2035735, TRACH2001549, TRACH2005811,
 15 TRACH2025535, TSTOM1000135, TSTOM2000442, TSTOM2000553,
 TSTOM2002672, UTERU2006115, UTERU3001572

The following five clones also had different expression levels between the two.

FEBRA2008692, NT2RI2009583, STOMA2003158, STOMA2004893,
 20 TESTI2015626

The result of comparative analysis of cDNA libraries derived from uterine tumor (TUTER) and normal uterus (UTERU) (Table 19) showed that the genes whose expression levels were different between the two were 244 and 34 clones as described below.

BNGH42007788, BRACE1000186, BRACE2030341, BRACE3008772,
 BRACE3009747, BRACE3010428, BRACE3027478, BRALZ2017359,
 BRAWH2014645, BRAWH3000314, BRAWH3001326, BRAWH3002574,
 BRAWH3002821, BRAWH3003727, BRAWH3007592, BRCAN2009432,
 30 BRCAN2028355, BRHIP3007586, BRHIP3008344, BRHIP3008565,
 BRSSN2006892, BRSTN2001067, BRSTN2016470, BRTHA2010608,
 BRTHA3003074, CTONG1000087, CTONG1000467, CTONG2028124,
 CTONG3001123, CTONG3008894, CTONG3009028, CTONG3009239,
 FCBBF3004847, FEBRA2026984, FEBRA2028618, HCHON2000244,
 35 HCHON2000418, HCHON2000626, HCHON2001084, HCHON2001217,
 HCHON2005921, HCHON2006250, HCHON2008444, HLUNG2003003,

HSYRA2008376, KIDNE2002252, MESAN2014295, NOVAR2000710,
NT2RI2008724, NT2RI2014247, NT2RI2014733, NT2RI3002892,
NT2RI3005724, NT2RI3006284, NT2RI3006340, NT2RI3006673,
NT2RI3007291, NT2RI3007543, NT2RP7004123, NT2RP7005529,
5 NT2RP7009147, NT2RP7017474, OCBBF2007028, OCBBF2020741,
OCBBF2024850, OCBBF2036743, OCBBF3000483, PLACE6001185,
PLACE7000514, PUAEN2007044, PUAEN2009655, SKNSH2000482,
SPLEN2006122, SPLEN2016554, SPLEN2031547, SPLEN2036932,
STOMA1000189, STOMA2004925, SYNOV2017055, SYNOV4001395,
10 SYNOV4002346, SYNOV4008440, TCERX2000613, TESOP2002273,
TESTI4000014, TESTI4008797, TESTI4009286, TESTI4012702,
TESTI4013675, TESTI4014159, TESTI4018886, TESTI4029671,
TESTI4037156, THYMU2008725, THYMU2031890, THYMU2033070,
THYMU2035735, THYMU3001472, TRACH1000205, TRACH2001443,
15 TRACH2001549, TRACH2005811, TRACH2007834, TRACH2008300,
TRACH3002192, TRACH3003379, TRACH3004068, TRACH3004721,
TRACH3007479, TUTER1000122, TUTER2000425, TUTER2000904,
TUTER2000916, TUTER2001387, TUTER2002729, UTERU1000024,
UTERU1000031, UTERU1000148, UTERU1000249, UTERU1000337,
20 UTERU1000339, UTERU2000649, UTERU2001409, UTERU2002410,
UTERU2002841, UTERU2004688, UTERU2004929, UTERU2005004,
UTERU2005621, UTERU2006115, UTERU2006137, UTERU2006568,
UTERU2007444, UTERU2007520, UTERU2007724, UTERU2008347,
UTERU2014678, UTERU2017762, UTERU2019491, UTERU2019681,
25 UTERU2019706, UTERU2019940, UTERU2020491, UTERU2020718,
UTERU2021163, UTERU2021380, UTERU2022020, UTERU2022981,
UTERU2023039, UTERU2023175, UTERU2023651, UTERU2023712,
UTERU2024002, UTERU2024656, UTERU2025025, UTERU2025645,
UTERU2025891, UTERU2026025, UTERU2026090, UTERU2026203,
30 UTERU2027591, UTERU2029953, UTERU2030213, UTERU2030280,
UTERU2031084, UTERU2031268, UTERU2031521, UTERU2031703,
UTERU2031851, UTERU2033375, UTERU2033382, UTERU2035114,
UTERU2035323, UTERU2035328, UTERU2035331, UTERU2035452,
UTERU2035469, UTERU2035503, UTERU2035745, UTERU2036089,
35 UTERU2037361, UTERU2037577, UTERU2038251, UTERU3000226,
UTERU3000645, UTERU3000665, UTERU3000828, UTERU3000899,

UTERU3001059, UTERU3001240, UTERU3001542, UTERU3001571,
 UTERU3001572, UTERU3001585, UTERU3001652, UTERU3001766,
 UTERU3001988, UTERU3002209, UTERU3002218, UTERU3002383,
 UTERU3002667, UTERU3002731, UTERU3002768, UTERU3002786,
 5 UTERU3002993, UTERU3003116, UTERU3003135, UTERU3003178,
 UTERU3003465, UTERU3003523, UTERU3003776, UTERU3004523,
 UTERU3004616, UTERU3004709, UTERU3004992, UTERU3005049,
 UTERU3005205, UTERU3005230, UTERU3005460, UTERU3005585,
 UTERU3005907, UTERU3005970, UTERU3006008, UTERU3006308,
 10 UTERU3007134, UTERU3007419, UTERU3007640, UTERU3007913,
 UTERU3008660, UTERU3008671, UTERU3009259, UTERU3009490,
 UTERU3009517, UTERU3009690, UTERU3009871, UTERU3009979,
 UTERU3011063, UTERU3015086, UTERU3015500, UTERU3016789,
 UTERU3018081, UTERU3018154, UTERU3018616, UTERU3018711
 15 ADRGL2000042, BRHIP3000017, CTONG2003348, CTONG2019822,
 CTONG2020378, CTONG2020411, CTONG2024031, FEBRA2028516,
 HCASM2008536, HCHON2000743, IMR322001879, MESAN2005303,
 NT2RI2009583, OCBBF2008144, PERIC2007068, SPLEN2039379,
 TESTI2015626, TESTI4013894, TUTER2000057, UTERU2004299,
 20 UTERU2008040, UTERU2011220, UTERU2019534, UTERU2021820,
 UTERU2028734, UTERU2032279, UTERU2033577, UTERU2035978,
 UTERU3000402, UTERU3000738, UTERU3001053, UTERU3014791,
 UTERU3015412, UTERU3017176

The result of comparative analysis of cDNA libraries
 25 derived from tongue cancer (CTONG) and normal tongue (NTONG)
 (Table 20) showed that the genes whose expression levels were
 different between the two were 166 and 31 clones as described
 below.

BNGH42007788, BRACE1000186, BRACE2006319, BRACE3010428,
 30 BRACE3012364, BRAMY2020058, BRAMY3002803, BRAWH2001671,
 BRAWH2014645, BRAWH3002574, BRCAN2009432, BRCAN2015371,
 BRCAN2020710, BRHIP2004814, BRHIP3018797, BRTHA2003461,
 BRTHA3003490, CTONG1000087, CTONG1000088, CTONG1000288,
 CTONG1000302, CTONG1000341, CTONG1000467, CTONG1000488,
 35 CTONG1000508, CTONG1000540, CTONG2000042, CTONG2001877,
 CTONG2004062, CTONG2006798, CTONG2008233, CTONG2009423,

CTONG2009531, CTONG2010803, CTONG2013178, CTONG2017500,
 CTONG2019248, CTONG2019652, CTONG2019704, CTONG2019788,
 CTONG2019833, CTONG2020127, CTONG2020522, CTONG2020638,
 CTONG2020806, CTONG2021132, CTONG2022153, CTONG2022601,
 5 CTONG2023021, CTONG2023512, CTONG2024206, CTONG2024749,
 CTONG2025496, CTONG2025516, CTONG2025900, CTONG2026920,
 CTONG2027327, CTONG2028124, CTONG2028687, CTONG3000084,
 CTONG3000657, CTONG3000686, CTONG3000707, CTONG3000896,
 CTONG3001123, CTONG3001370, CTONG3001420, CTONG3001560,
 10 CTONG3002020, CTONG3002127, CTONG3002412, CTONG3002674,
 CTONG3003179, CTONG3003483, CTONG3003652, CTONG3003654,
 CTONG3003737, CTONG3003905, CTONG3003972, CTONG3004072,
 CTONG3004712, CTONG3005325, CTONG3005648, CTONG3005713,
 CTONG3005813, CTONG3006067, CTONG3006186, CTONG3006650,
 15 CTONG3007444, CTONG3007528, CTONG3007586, CTONG3007870,
 CTONG3008252, CTONG3008258, CTONG3008496, CTONG3008566,
 CTONG3008639, CTONG3008831, CTONG3008894, CTONG3008951,
 CTONG3009028, CTONG3009227, CTONG3009239, CTONG3009328,
 CTONG3009385, FEBRA2007544, FEBRA2007801, FEBRA2021966,
 20 FEBRA2025427, HCHON2000028, HCHON2001217, HHDPC1000118,
 HSYRA2008376, KIDNE2001847, KIDNE2002252, MESAN2006563,
 NT2RI2008724, NT2RI2018883, NT2RI3000622, NT2RI3006284,
 NT2RI3006673, NT2RI3007543, NT2RI3007757, NT2RP7004123,
 NT2RP7009147, NT2RP7014005, NTONG2000413, NTONG2003852,
 25 NTONG2005277, NTONG2005969, NTONG2006354, NTONG2007249,
 NTONG2007517, NTONG2008088, NTONG2008672, OCBBF2001794,
 OCBBF2006151, PEBLM2004666, PEBLM2005183, SPLEN2002467,
 SPLEN2029912, SPLEN2031547, SYNOV4007671, SYNOV4008440,
 TBAES2002197, TESOP2002273, TESTI2009474, TESTI4000014,
 30 TESTI4000209, TESTI4008018, TESTI4009286, TESTI4010851,
 TESTI4012702, TESTI4013675, THYMU2031847, THYMU2033308,
 TLIVE2002690, TRACH2005811, TRACH2007059, TRACH2025535,
 TRACH3001427, TSTOM2000553, UTERU2005621, UTERU2017762,
 UTERU2023175, UTERU3001572
 35 BLADE2006830, BRHIP3000017, CTONG1000113, CTONG2003348,
 CTONG2004000, CTONG2008721, CTONG2015596, CTONG2015633,

CTONG2016942, CTONG2019822, CTONG2020374, CTONG2020378,
 CTONG2020411, CTONG2020974, CTONG2024031, CTONG2028758,
 CTONG3001501, CTONG3002552, CTONG3003598, CTONG3004550,
 CTONG3004726, CTONG3009287, FEBRA2008692, FEBRA2028516,
 5 HCHON2000508, NT2RI2009583, NTONG2008093, PERIC2007068,
 TESOP2007384, TLIVE2002046, TRACH2000862

These genes are involved in cancer.

Further, there is a method to search for genes involved in
 development and differentiation, which is the expression
 10 frequency analysis in which the expression levels of genes are
 compared between developing and/or differentiating tissues
 and/or cells and adult tissues and/or cells. The genes involved
 in tissue development and/or differentiation are genes
 participating in tissue construction and expression of function,
 15 and thus are useful genes, which are available for regenerative
 medicine aiming at convenient regeneration of injured tissues.

By using the information of gene expression frequency
 gained from the database of nucleotide sequences of 1,402,069
 clones as described above, genes whose expression frequencies
 20 were different between developing and/or differentiating tissues
 and/or cells and adult tissues and/or cells were analyzed.

The result of comparative analysis of cDNA libraries
 derived from fetal brain (FCBBF, FEBRA or OCBBF) and adult brain
 (BRACE, BRALZ, BRAMY, BRAWH, BRCAN, BRCOC, BRHIP, BRSSN, BRSTN
 25 or BRTHA) (Table 21) showed that the genes whose expression
 levels were different between the two were 1,035 and 139 clones
 as described below.

ADRGL2009146, ADRGL2012038, ADRGL2012179, ASTRO1000009,
 ASTRO2003960, ASTRO3000482, BLADE1000176, BLADE2001371,
 30 BLADE2004089, BLADE2008398, BNGH42007788, BRACE1000186,
 BRACE1000258, BRACE1000533, BRACE1000572, BRACE2003639,
 BRACE2005457, BRACE2006319, BRACE2008594, BRACE2010489,
 BRACE2011747, BRACE2014306, BRACE2014475, BRACE2014657,
 BRACE2015058, BRACE2015314, BRACE2016981, BRACE2018762,
 35 BRACE2024627, BRACE2026836, BRACE2027258, BRACE2027970,
 BRACE2028970, BRACE2029112, BRACE2029849, BRACE2030326,

BRACE2030341, BRACE2030884, BRACE2031154, BRACE2031389,
BRACE2031527, BRACE2031531, BRACE2031899, BRACE2032044,
BRACE2032329, BRACE2032385, BRACE2032538, BRACE2032823,
BRACE2033720, BRACE2035381, BRACE2035441, BRACE2036005,
5 BRACE2036096, BRACE2036830, BRACE2036834, BRACE2037847,
BRACE2038114, BRACE2038329, BRACE2038551, BRACE2039249,
BRACE2039327, BRACE2039475, BRACE2039734, BRACE2040138,
BRACE2040325, BRACE2041009, BRACE2041200, BRACE2041264,
BRACE2042550, BRACE2043142, BRACE2043248, BRACE2043349,
10 BRACE2043665, BRACE2044286, BRACE2044816, BRACE2044949,
BRACE2045300, BRACE2045428, BRACE2045596, BRACE2045772,
BRACE2045947, BRACE2045954, BRACE2046251, BRACE2046295,
BRACE2047011, BRACE2047350, BRACE2047377, BRACE2047385,
BRACE3000071, BRACE3000697, BRACE3000787, BRACE3000840,
15 BRACE3000973, BRACE3001002, BRACE3001217, BRACE3001391,
BRACE3001595, BRACE3001754, BRACE3002298, BRACE3002390,
BRACE3002508, BRACE3003004, BRACE3003192, BRACE3003595,
BRACE3003698, BRACE3004058, BRACE3004113, BRACE3004150,
BRACE3004358, BRACE3004435, BRACE3004772, BRACE3004783,
20 BRACE3004843, BRACE3004880, BRACE3005145, BRACE3005225,
BRACE3005430, BRACE3005499, BRACE3006185, BRACE3006226,
BRACE3006462, BRACE3006872, BRACE3007322, BRACE3007472,
BRACE3007480, BRACE3007559, BRACE3007625, BRACE3007642,
BRACE3007767, BRACE3008036, BRACE3008092, BRACE3008137,
25 BRACE3008384, BRACE3008720, BRACE3008772, BRACE3009090,
BRACE3009237, BRACE3009297, BRACE3009377, BRACE3009574,
BRACE3009701, BRACE3009708, BRACE3009724, BRACE3009747,
BRACE3010397, BRACE3010428, BRACE3011271, BRACE3011421,
BRACE3011505, BRACE3012364, BRACE3012930, BRACE3013119,
30 BRACE3013576, BRACE3013740, BRACE3013780, BRACE3014005,
BRACE3014068, BRACE3014231, BRACE3014317, BRACE3014807,
BRACE3015027, BRACE3015121, BRACE3015262, BRACE3015521,
BRACE3015894, BRACE3016884, BRACE3018308, BRACE3018963,
BRACE3019055, BRACE3019084, BRACE3020194, BRACE3020286,
35 BRACE3020594, BRACE3022769, BRACE3023912, BRACE3024073,
BRACE3024659, BRACE3024662, BRACE3025153, BRACE3025457,

BRACE3025531, BRACE3025630, BRACE3026008, BRACE3026075,
 BRACE3026735, BRACE3027242, BRACE3027326, BRACE3027478,
 BRACE3030103, BRACE3031838, BRACE3032983, BRACE3040856,
 BRACE3045033, BRALZ2011796, BRALZ2012183, BRALZ2012848,
 5 BRALZ2014484, BRALZ2016085, BRALZ2016498, BRALZ2017359,
 BRAMY2001473, BRAMY2003008, BRAMY2004771, BRAMY2005052,
 BRAMY2017528, BRAMY2019300, BRAMY2019963, BRAMY2019985,
 BRAMY2020058, BRAMY2020270, BRAMY2021498, BRAMY2028856,
 BRAMY2028914, BRAMY2029602, BRAMY2030098, BRAMY2030109,
 10 BRAMY2030702, BRAMY2030703, BRAMY2030799, BRAMY2031317,
 BRAMY2031377, BRAMY2031442, BRAMY2032014, BRAMY2032242,
 BRAMY2032317, BRAMY2033003, BRAMY2033116, BRAMY2033267,
 BRAMY2033594, BRAMY2034185, BRAMY2034920, BRAMY2034993,
 BRAMY2036387, BRAMY2036396, BRAMY2036567, BRAMY2036699,
 15 BRAMY2036913, BRAMY2037823, BRAMY2038100, BRAMY2038484,
 BRAMY2038846, BRAMY2038904, BRAMY2039872, BRAMY2040478,
 BRAMY2040592, BRAMY2041261, BRAMY2041378, BRAMY2041542,
 BRAMY2042612, BRAMY2042641, BRAMY2042760, BRAMY2042918,
 BRAMY2044078, BRAMY2044246, BRAMY2045036, BRAMY2046478,
 20 BRAMY2046742, BRAMY2046989, BRAMY2047169, BRAMY2047420,
 BRAMY2047676, BRAMY2047746, BRAMY2047751, BRAMY2047765,
 BRAMY2047884, BRAMY3000206, BRAMY3000213, BRAMY3001401,
 BRAMY3001794, BRAMY3002312, BRAMY3002620, BRAMY3002803,
 BRAMY3002805, BRAMY3004224, BRAMY3004672, BRAMY3004900,
 25 BRAMY3004919, BRAMY3005091, BRAMY3005932, BRAMY3006297,
 BRAMY3007206, BRAMY3007609, BRAMY3008466, BRAMY3008505,
 BRAMY3008650, BRAMY3009811, BRAMY3010411, BRAMY4000095,
 BRAMY4000229, BRAMY4000277, BRASW1000125, BRAWH1000127,
 BRAWH2001395, BRAWH2001671, BRAWH2001940, BRAWH2001973,
 30 BRAWH2002560, BRAWH2002761, BRAWH2005315, BRAWH2007658,
 BRAWH2010000, BRAWH2010084, BRAWH2010536, BRAWH2012162,
 BRAWH2012326, BRAWH2013294, BRAWH2013871, BRAWH2014414,
 BRAWH2014645, BRAWH2014662, BRAWH2014876, BRAWH2014954,
 BRAWH2016221, BRAWH2016439, BRAWH2016702, BRAWH2016724,
 35 BRAWH3000078, BRAWH3000100, BRAWH3000314, BRAWH3000491,
 BRAWH3001326, BRAWH3001475, BRAWH3001891, BRAWH3002574,

BRAWH3002600, BRAWH3002819, BRAWH3002821, BRAWH3003522,
BRAWH3003555, BRAWH3003727, BRAWH3003801, BRAWH3003992,
BRAWH3004453, BRAWH3004666, BRAWH3005132, BRAWH3005422,
BRAWH3005912, BRAWH3005981, BRAWH3006548, BRAWH3006792,
5 BRAWH3007221, BRAWH3007506, BRAWH3007592, BRAWH3007726,
BRAWH3007783, BRAWH3008341, BRAWH3008697, BRAWH3008931,
BRAWH3009297, BRCAN2002562, BRCAN2002856, BRCAN2002944,
BRCAN2002948, BRCAN2003703, BRCAN2003746, BRCAN2003987,
BRCAN2004355, BRCAN2005436, BRCAN2006063, BRCAN2006290,
10 BRCAN2006297, BRCAN2006450, BRCAN2007144, BRCAN2007409,
BRCAN2007426, BRCAN2008528, BRCAN2009203, BRCAN2009432,
BRCAN2010376, BRCAN2011254, BRCAN2011602, BRCAN2012355,
BRCAN2012481, BRCAN2013655, BRCAN2013660, BRCAN2014143,
BRCAN2014602, BRCAN2014881, BRCAN2015371, BRCAN2015464,
15 BRCAN2016433, BRCAN2016619, BRCAN2017442, BRCAN2017717,
BRCAN2017905, BRCAN2018935, BRCAN2019387, BRCAN2020710,
BRCAN2021028, BRCAN2024451, BRCAN2024563, BRCAN2025712,
BRCAN2028355, BRCOC2000670, BRCOC2003213, BRCOC2007034,
BRCOC2014033, BRCOC2016525, BRCOC2019934, BRCOC2020142,
20 BRHIP2000691, BRHIP2000819, BRHIP2000826, BRHIP2000920,
BRHIP2001074, BRHIP2001805, BRHIP2001927, BRHIP2002122,
BRHIP2002172, BRHIP2002346, BRHIP2003242, BRHIP2003786,
BRHIP2003917, BRHIP2004312, BRHIP2004359, BRHIP2004814,
BRHIP2004883, BRHIP2005236, BRHIP2005354, BRHIP2005600,
25 BRHIP2005719, BRHIP2005752, BRHIP2005932, BRHIP2006800,
BRHIP2007616, BRHIP2007741, BRHIP2009340, BRHIP2009414,
BRHIP2009474, BRHIP2013699, BRHIP2014228, BRHIP2021615,
BRHIP2022221, BRHIP2024146, BRHIP2024165, BRHIP2026061,
BRHIP2026288, BRHIP2029176, BRHIP2029393, BRHIP3000339,
30 BRHIP3000526, BRHIP3001283, BRHIP3006683, BRHIP3007483,
BRHIP3007586, BRHIP3008183, BRHIP3008313, BRHIP3008344,
BRHIP3008405, BRHIP3008565, BRHIP3008598, BRHIP3008997,
BRHIP3009099, BRHIP3009448, BRHIP3011241, BRHIP3013765,
BRHIP3013897, BRHIP3015751, BRHIP3016213, BRHIP3018797,
35 BRHIP3020182, BRHIP3024118, BRHIP3024533, BRHIP3024725,
BRHIP3025161, BRHIP3025702, BRHIP3026097, BRHIP3027137,

BRHIP3027854, BRSSN2000684, BRSSN2003086, BRSSN2004496,
 BRSSN2004719, BRSSN2006892, BRSSN2008549, BRSSN2008797,
 BRSSN2011262, BRSSN2011738, BRSSN2013874, BRSSN2014299,
 BRSSN2014424, BRSSN2014556, BRSSN2018581, BRSSN2018925,
 5 BRSTN2000872, BRSTN2001067, BRSTN2001613, BRSTN2002400,
 BRSTN2003835, BRSTN2004863, BRSTN2004987, BRSTN2005721,
 BRSTN2006865, BRSTN2007000, BRSTN2007284, BRSTN2008052,
 BRSTN2008283, BRSTN2008418, BRSTN2008457, BRSTN2010363,
 BRSTN2010500, BRSTN2010750, BRSTN2012320, BRSTN2012380,
 10 BRSTN2015015, BRSTN2016470, BRSTN2016678, BRSTN2017237,
 BRSTN2017771, BRSTN2018083, BRSTN2019129, BRTHA1000311,
 BRTHA2000855, BRTHA2001462, BRTHA2002115, BRTHA2002281,
 BRTHA2002376, BRTHA2002442, BRTHA2002493, BRTHA2002608,
 BRTHA2002808, BRTHA2003030, BRTHA2003110, BRTHA2003116,
 15 BRTHA2003461, BRTHA2004821, BRTHA2004978, BRTHA2005579,
 BRTHA2005956, BRTHA2006075, BRTHA2006146, BRTHA2006194,
 BRTHA2007122, BRTHA2007422, BRTHA2007603, BRTHA2008316,
 BRTHA2008335, BRTHA2008527, BRTHA2008535, BRTHA2008955,
 BRTHA2009311, BRTHA2009846, BRTHA2009972, BRTHA2010073,
 20 BRTHA2010608, BRTHA2010884, BRTHA2010907, BRTHA2011194,
 BRTHA2011351, BRTHA2011500, BRTHA2011641, BRTHA2012392,
 BRTHA2012562, BRTHA2012980, BRTHA2013262, BRTHA2013460,
 BRTHA2013707, BRTHA2014792, BRTHA2014828, BRTHA2015406,
 BRTHA2015478, BRTHA2015696, BRTHA2015878, BRTHA2016215,
 25 BRTHA2016496, BRTHA2016543, BRTHA2017353, BRTHA2017985,
 BRTHA2018165, BRTHA2018344, BRTHA2018591, BRTHA2018624,
 BRTHA2018707, BRTHA2019014, BRTHA2019022, BRTHA2019048,
 BRTHA3000273, BRTHA3000297, BRTHA3000633, BRTHA3001721,
 BRTHA3002401, BRTHA3002427, BRTHA3002933, BRTHA3003074,
 30 BRTHA3003343, BRTHA3003449, BRTHA3003474, BRTHA3003490,
 BRTHA3004475, BRTHA3005046, BRTHA3006856, BRTHA3007113,
 BRTHA3007148, BRTHA3007319, BRTHA3007769, BRTHA3008143,
 BRTHA3008310, BRTHA3008386, BRTHA3008520, BRTHA3008778,
 BRTHA3009037, BRTHA3009090, BRTHA3009291, BRTHA3010366,
 35 BRTHA3013884, BRTHA3015815, BRTHA3015910, BRTHA3016845,
 BRTHA3016917, BRTHA3017047, BRTHA3017589, BRTHA3017848,

BRTHA3018514, BRTHA3018617, BRTHA3018656, BRTHA3019105,
 COLON2001721, CTONG1000087, CTONG1000088, CTONG1000467,
 CTONG2000042, CTONG2008233, CTONG2009423, CTONG2017500,
 CTONG2019248, CTONG2019788, CTONG2020522, CTONG2023021,
 5 CTONG2028124, CTONG3000657, CTONG3001123, CTONG3001370,
 CTONG3002412, CTONG3004072, CTONG3005813, CTONG3008894,
 CTONG3009028, CTONG3009239, CTONG3009328, DFNES2000146,
 DFNES2011239, DFNES2011499, FCBBF1000297, FCBBF2001183,
 FCBBF3001977, FCBBF3002163, FCBBF3003435, FCBBF3004502,
 10 FCBBF3004847, FCBBF3006171, FCBBF3007242, FCBBF3007540,
 FCBBF3008944, FCBBF3009888, FCBBF3012170, FCBBF3012288,
 FCBBF3013307, FCBBF3013846, FCBBF3021576, FCBBF3021940,
 FCBBF3023443, FCBBF3023895, FCBBF3025730, FCBBF3027717,
 FCBBF4000076, FEBRA1000030, FEBRA2000253, FEBRA2006396,
 15 FEBRA2007544, FEBRA2007708, FEBRA2007793, FEBRA2007801,
 FEBRA2008287, FEBRA2008311, FEBRA2008360, FEBRA2008468,
 FEBRA2010719, FEBRA2014213, FEBRA2015588, FEBRA2020484,
 FEBRA2020582, FEBRA2020668, FEBRA2020886, FEBRA2021339,
 FEBRA2021571, FEBRA2021908, FEBRA2021966, FEBRA2024136,
 20 FEBRA2024150, FEBRA2024343, FEBRA2024744, FEBRA2025427,
 FEBRA2026984, FEBRA2027082, FEBRA2027297, FEBRA2027352,
 FEBRA2028366, FEBRA2028477, FEBRA2028618, HCASM2007047,
 HCHON2000028, HCHON2000212, HCHON2000244, HCHON2000626,
 HCHON2001084, HCHON2001217, HCHON2002676, HCHON2005921,
 25 HCHON2006250, HCHON2007881, HCHON2008112, HEART1000074,
 HEART2007031, HHDPC1000118, HLUNG2001996, HLUNG2002465,
 HLUNG2003003, HSYRA2009075, IMR322000127, IMR322000917,
 IMR322001380, IMR322002035, KIDNE2000665, KIDNE2002252,
 KIDNE2005543, KIDNE2006580, KIDNE2011314, MESAN2006563,
 30 MESAN2012054, MESAN2015515, MESTC1000042, NB9N41000340,
 NESOP2001752, NHNPC2001223, NOVAR2001783, NT2NE2005890,
 NT2NE2006909, NT2NE2008060, NT2RI2003993, NT2RI2005166,
 NT2RI2008724, NT2RI2012659, NT2RI2014733, NT2RI2018311,
 NT2RI2019751, NT2RI3000622, NT2RI3001515, NT2RI3002842,
 35 NT2RI3002892, NT2RI3003382, NT2RI3004510, NT2RI3005403,
 NT2RI3005724, NT2RI3006284, NT2RI3006673, NT2RI3007291,

NT2RI3007543, NT2RI3008055, NT2RP7004123, NT2RP7005529,
 NT2RP7009030, NT2RP7009147, NT2RP7010599, NT2RP7014005,
 NT2RP7015512, NT2RP7017474, NTONG2000413, NTONG2005969,
 NTONG2008088, OCBBF1000254, OCBBF2001794, OCBBF2002124,
 5 OCBBF2003819, OCBBF2004826, OCBBF2004883, OCBBF2005428,
 OCBBF2006005, OCBBF2006058, OCBBF2006151, OCBBF2006567,
 OCBBF2006764, OCBBF2007028, OCBBF2007068, OCBBF2007114,
 OCBBF2007428, OCBBF2007478, OCBBF2007610, OCBBF2008770,
 OCBBF2009788, OCBBF2009926, OCBBF2010140, OCBBF2010416,
 10 OCBBF2017516, OCBBF2019327, OCBBF2019823, OCBBF2020343,
 OCBBF2020453, OCBBF2020639, OCBBF2020741, OCBBF2020801,
 OCBBF2020838, OCBBF2021020, OCBBF2021286, OCBBF2021323,
 OCBBF2021788, OCBBF2022351, OCBBF2022574, OCBBF2023162,
 OCBBF2023643, OCBBF2024719, OCBBF2024781, OCBBF2024850,
 15 OCBBF2025028, OCBBF2025458, OCBBF2025527, OCBBF2025730,
 OCBBF2026645, OCBBF2027423, OCBBF2027478, OCBBF2028173,
 OCBBF2028935, OCBBF2029901, OCBBF2030354, OCBBF2030517,
 OCBBF2030574, OCBBF2030708, OCBBF2031167, OCBBF2031366,
 OCBBF2032590, OCBBF2032599, OCBBF2032611, OCBBF2032671,
 20 OCBBF2033869, OCBBF2035110, OCBBF2035214, OCBBF2035564,
 OCBBF2035885, OCBBF2035916, OCBBF2036476, OCBBF2036743,
 OCBBF2037068, OCBBF2037340, OCBBF2037398, OCBBF2037547,
 OCBBF2037598, OCBBF2037638, OCBBF2038317, OCBBF3000296,
 OCBBF3000483, OCBBF3002553, OCBBF3002600, OCBBF3003320,
 25 OCBBF3003592, OCBBF3004314, OCBBF3006802, OCBBF3007516,
 OCBBF3008230, OCBBF3009279, PEBLM2004666, PERIC2000889,
 PERIC2002766, PERIC2003720, PLACE6001185, PLACE6019385,
 PUAEN2002489, PUAEN2005930, PUAEN2006701, PUAEN2007044,
 PUAEN2009174, PUAEN2009655, RECTM2001347, SKMUS2000757,
 30 SKNMC2002402, SKNSH2000482, SMINT2001818, SPLEN2001599,
 SPLEN2002467, SPLEN2006122, SPLEN2010912, SPLEN2012624,
 SPLEN2025491, SPLEN2027268, SPLEN2028914, SPLEN2029912,
 SPLEN2031424, SPLEN2031547, SPLEN2032154, SPLEN2034781,
 SPLEN2036821, SPLEN2036932, SPLEN2037194, SPLEN2038345,
 35 SPLEN2042303, SYNOV1000374, SYNOV2005216, SYNOV2014400,
 SYNOV4002346, SYNOV4002883, SYNOV4007430, SYNOV4007671,

SYNOV4008440, TESOP2001605, TESOP2002273, TESOP2002451,
 TESOP2002950, TESTI1000330, TESTI2003573, TESTI2009474,
 TESTI2049246, TESTI4000014, TESTI4000209, TESTI4000349,
 TESTI4001100, TESTI4001561, TESTI4002290, TESTI4002647,
 5 TESTI4005857, TESTI4006137, TESTI4006326, TESTI4008797,
 TESTI4009286, TESTI4010377, TESTI4010851, TESTI4010928,
 TESTI4011161, TESTI4012702, TESTI4013675, TESTI4013817,
 TESTI4014159, TESTI4014175, TESTI4014306, TESTI4014694,
 TESTI4014818, TESTI4019843, TESTI4021478, TESTI4022936,
 10 TESTI4024420, TESTI4027821, TESTI4029836, TESTI4037156,
 TESTI4037188, TESTI4046819, THYMU2001090, THYMU2011736,
 THYMU2014353, THYMU2016204, THYMU2016523, THYMU2023967,
 THYMU2025707, THYMU2030264, THYMU2031341, THYMU2031890,
 THYMU2032696, THYMU2032825, THYMU2033308, THYMU2033787,
 15 THYMU2034374, THYMU2035735, THYMU2037226, THYMU2039315,
 THYMU2039780, THYMU2040975, THYMU3001083, THYMU3001234,
 THYMU3001379, THYMU3003309, THYMU3004835, THYMU3006485,
 THYMU3007137, THYMU3008171, TKIDN2009641, TKIDN2009889,
 TKIDN2010934, TKIDN2013287, TKIDN2015788, TLIVE2001327,
 20 TLIVE2004320, TRACH1000205, TRACH2001443, TRACH2001549,
 TRACH2001684, TRACH2005811, TRACH2006049, TRACH2007834,
 TRACH2008300, TRACH2023299, TRACH2025344, TRACH2025535,
 TRACH2025911, TRACH3000014, TRACH3001427, TRACH3002192,
 TRACH3004068, TRACH3004721, TRACH3005294, TRACH3006038,
 25 TRACH3006412, TRACH3007479, TRACH3008093, TRACH3009455,
 TSTOM1000135, TUTER1000122, TUTER2000904, UTERU2002410,
 UTERU2004929, UTERU2005621, UTERU2006115, UTERU2007520,
 UTERU2014678, UTERU2019706, UTERU2019940, UTERU2021163,
 UTERU2023039, UTERU2023175, UTERU2026203, UTERU2030213,
 30 UTERU2030280, UTERU3000226, UTERU3000899, UTERU3001571,
 UTERU3001572, UTERU3001766, UTERU3003135, UTERU3004709,
 UTERU3005230, UTERU3005460, UTERU3005907, UTERU3005970,
 UTERU3006308, UTERU3007419, UTERU3007640, UTERU3007913,
 UTERU3009259, UTERU3009517, UTERU3009871
 35 ADRGL2000042, BLADE2006830, BRACE2002589, BRACE2003609,
 BRACE2009318, BRACE2011677, BRACE2029396, BRACE2037299,

BRACE2039823, BRACE2039832, BRACE2043105, BRACE3001058,
 BRACE3001113, BRACE3003026, BRACE3003053, BRACE3009127,
 BRACE3010076, BRACE3015829, BRACE3021148, BRALZ2017844,
 BRAMY2019111, BRAMY2035070, BRAMY2035449, BRAMY2035718,
 5 BRAMY2038516, BRAMY2039341, BRAMY2040159, BRAMY2041434,
 BRAMY2045471, BRAMY3004800, BRAWH1000369, BRAWH2006207,
 BRAWH2006395, BRAWH2008993, BRAWH2009393, BRAWH2010552,
 BRAWH3007441, BRAWH3009017, BRCAN2002473, BRCAN2002854,
 BRCAN2003070, BRCAN2014229, BRCOC2019841, BRHIP2002722,
 10 BRHIP2003272, BRHIP2005271, BRHIP2005724, BRHIP2006617,
 BRHIP2008389, BRHIP2012360, BRHIP2017553, BRHIP2026877,
 BRHIP3000017, BRHIP3000240, BRHIP3008314, BRHIP3026052,
 BRSTN2013354, BRTHA2002133, BRTHA2002702, BRTHA2007060,
 BRTHA2010033, BRTHA2011321, BRTHA2013426, BRTHA2013610,
 15 BRTHA2016318, BRTHA2017364, BRTHA2017972, BRTHA2018011,
 BRTHA2018443, BRTHA3000296, BRTHA3003000, BRTHA3008826,
 CTONG2008721, CTONG2020374, CTONG2020378, CTONG2020411,
 CTONG2024031, CTONG3004726, FCBBF1000509, FCBBF3010361,
 FCBBF3027854, FEBRA2000790, FEBRA2001990, FEBRA2006519,
 20 FEBRA2008692, FEBRA2014122, FEBRA2027609, FEBRA2028516,
 HCASM2003018, HCHON2000508, HCHON2000743, HCHON2004858,
 HSYRA2005628, IMR322001879, NT2RI2009583, NT2RP8000521,
 OCBBF2003327, OCBBF2005433, OCBBF2006987, OCBBF2008144,
 OCBBF2009583, OCBBF2011669, OCBBF2019684, OCBBF2020048,
 25 OCBBF2030116, OCBBF2032274, OCBBF2034637, OCBBF3002654,
 OCBBF3003761, OCBBF3004972, PERIC2007068, PUAEN2006335,
 SPLEN2016932, SPLEN2039379, SYNOV2006620, SYNOV2021953,
 TESTI1000266, TESTI2015626, TESTI2026647, TESTI4000214,
 TESTI4001984, TESTI4008058, TESTI4013894, TESTI4015442,
 30 TESTI4017714, TESTI4025268, TESTI4025547, TESTI4026207,
 TESTI4032090, THYMU2004284, THYMU2040925, THYMU3000360,
 TKIDN2018926, TLIVE2002046, TRACH3000134, UTERU2008040,
 UTERU2011220, UTERU2021820, UTERU2028734

The result of comparative analysis of cDNA libraries
 35 derived from fetal heart (FEHRT) and adult heart (HEART) (Table

22) showed that the genes whose expression levels were different between the two were 34 and two clones as described below.

BRAMY2040592, BRAWH2001671, BRSTN2016470, CTONG2017500,
 CTONG2028124, CTONG3000657, D3OST3000169, FEBRA2008287,
 5 HCHON2000244, HCHON2000626, HEART1000010, HEART1000074,
 HEART1000088, HEART1000139, HEART2001680, HEART2001756,
 HEART2006131, HEART2006909, HEART2007031, HEART2010391,
 HEART2010492, HEART2010495, KIDNE2000665, NB9N41000340,
 NT2RI2003993, NT2RI3002892, OCBBF2024850, SKMUS2006394,
 10 SMINT2001818, TESTI4000209, TKIDN2015788, TRACH3002192,
 TRACH3005294, TRACH3007479
 HEART2009680, THYMU2004284

The result of comparative analysis of cDNA libraries derived from fetal kidney (FEKID) and adult kidney (KIDNE)
 15 (Table 23) showed that the genes whose expression levels were different between the two were 40 and two clones as described below.

BRACE2043665, BRACE3010428, BRSTN2016470, CTONG1000087,
 CTONG2028124, CTONG3008894, HCASM2003415, HCHON2000244,
 20 HEART1000074, HHDPC1000118, KIDNE1000064, KIDNE2000665,
 KIDNE2000722, KIDNE2000832, KIDNE2000846, KIDNE2001361,
 KIDNE2001847, KIDNE2002252, KIDNE2002991, KIDNE2003837,
 KIDNE2005543, KIDNE2006580, KIDNE2010264, KIDNE2011314,
 KIDNE2011532, KIDNE2011635, KIDNE2012945, KIDNE2013095,
 25 PEBLM2004666, PLACE6019385, STOMA1000189, SYNOV4007671,
 TBAES2001258, TESOP2002451, TESTI4000014, TESTI4012702,
 THYMU2032014, TRACH2001684, TRACH2007834, UTERU2023175
 NT2RI2009583, OCBBF2008144

The result of comparative analysis of cDNA libraries derived from fetal lung (FELNG) and adult lung (HLUNG) (Table
 30 24) showed that the genes whose expression levels were different between the two were 51 and eight clones as described below.

BRAWH3007592, BRCAN2021028, BRHIP2000819, BRSTN2016470,
 CTONG1000087, CTONG2028124, HCASM2007047, HEART1000074,
 35 HLUNG1000017, HLUNG2000014, HLUNG2001996, HLUNG2002465,
 HLUNG2002958, HLUNG2003003, HLUNG2003872, HLUNG2010464,

HLUNG2011041, HLUNG2011298, HLUNG2012049, HLUNG2012287,
 HLUNG2012727, HLUNG2013204, HLUNG2013304, HLUNG2013622,
 HLUNG2013851, HLUNG2014262, HLUNG2014288, HLUNG2014449,
 HLUNG2015617, HLUNG2017350, HLUNG2017546, HLUNG2017806,
 5 HLUNG2019058, HSYRA2008376, KIDNE2012945, NT2RI2003993,
 NT2RI3007543, OCBBF3000483, SMINT1000192, SPLEN2028914,
 SPLEN2031547, STOMA1000189, SYNOV4007671, TESOP1000127,
 TESTI2003573, TESTI4000014, TESTI4037156, TRACH2005811,
 TRACH3004068, UTERU2005621, UTERU2023175
 10 FEBRA2028516, HCHON2000508, HLUNG2013350, HLUNG2015418,
 HLUNG2015548, HLUNG2016862, TESTI2015626, TRACH2019672

These genes are involved in regeneration of tissues and/or cells.

A nucleotide sequence information-based analysis was
 15 carried out to identify the genes whose expression frequencies
 are higher or lower in CD34+ cell (cell expressing a
 glycoprotein CD34) treated with the osteoclast differentiation
 factor (Molecular Medicine 38. 642-648. (2001)) than in the
 untreated CD34+ cell, which is the precursor cell of
 20 monocyte/macrophage line. The result of comparative analysis
 for the frequency between the two cDNA libraries prepared from
 the RNA of CD34+ cells (CD34C) and from the RNA of CD34+ cells
 treated with the osteoclast differentiation factor (D30ST, D60ST
 or D90ST) showed following genes whose expression levels were
 25 different between the two.

Table 2

Clone ID	CD34C	D30ST	D60ST	D90ST
BRACE3013780	0.000	55.996	0.000	0.000
BRAMY2047420	42.545	0.000	0.000	0.000
BRSTN2016470	0.000	2.555	0.000	0.000
CTONG3008894	0.000	8.487	0.000	0.000
35 D30ST2002182	0.000	86.773	0.000	0.000
D30ST2002648	0.000	17.515	0.000	0.000

	D30ST3000169	20.553	28.566	0.000	19.796
	PEBLM2005183	0.000	0.000	0.000	50.747
	PUAEN2009655	0.000	0.000	0.000	49.285
	TESTI4000014	7.500	0.000	0.000	0.000
5	TESTI4010851	0.000	0.000	0.000	7.372
	TRACH2023299	0.000	74.521	0.000	0.000
	TRACH2025535	0.000	6.778	0.000	0.000
	TRACH3001427	0.000	0.000	0.000	12.519
	UTERU2006137	0.000	90.731	0.000	0.000
10	HCHON2000508	0.000	4.360	50.138	0.000
	TESTI2015626	0.000	0.000	0.000	4.435

A survey was performed for genes whose expression levels are varied in response to induction of differentiation (stimulation by retinoic acid (RA) or growth inhibitor treatment after RA stimulation) in cultured cells of a neural strain, NT2. The result of comparative analysis of cDNA libraries derived from undifferentiated NT2 cells (NT2RM) and the cells subjected to the differentiation treatment (NT2RP, NT2RI or NT2NE) showed following genes whose expression levels were different between the two.

Table 3

Clone ID	NT2RM	NT2RP	NT2RI	NT2NE
BNGH42007788	0.000	7.419	0.000	0.000
BRACE1000186	0.000	5.211	0.000	7.836
BRACE2006319	0.000	8.450	0.000	0.000
BRACE2014306	0.000	0.000	0.000	17.640
BRACE2015058	0.000	10.567	0.000	0.000
BRACE2044286	0.000	0.000	33.923	0.000
BRACE3010428	0.000	0.000	2.080	0.000
BRAMY2044078	0.000	10.567	0.000	0.000
BRAWH2014645	0.000	7.643	1.921	0.000
BRAWH2014662	0.000	0.000	0.000	56.250

	BRAWH3002574	0.000	0.000	12.014	0.000
	BRAWH3003992	0.000	34.956	0.000	0.000
	BRAWH3005981	0.000	70.676	0.000	0.000
	BRAWH3007592	0.000	8.644	3.259	0.000
5	BRCAN2009432	0.000	3.173	0.000	0.000
	BRCAN2016619	0.000	0.000	23.940	0.000
	BRCAN2028355	0.000	0.000	0.000	5.354
	BRHIP2001074	0.000	47.218	0.000	0.000
	BRHIP2007741	0.000	0.000	6.309	6.291
10	BRHIP2014228	0.000	35.475	0.000	0.000
	BRHIP2024146	0.000	0.000	1.106	0.000
	BRHIP3007586	0.000	0.000	0.000	12.507
	BRHIP3018797	0.000	0.000	4.869	0.000
	BRTHA2003461	0.000	0.000	3.989	0.000
15	BRTHA3000633	0.000	0.000	62.102	0.000
	BRTHA3003490	0.000	3.913	0.000	0.000
	COLON2001721	0.000	0.000	10.053	0.000
	CTONG1000087	0.000	5.041	5.701	3.790
	CTONG2008233	0.000	8.275	2.496	7.466
20	CTONG2020638	0.000	0.000	22.499	0.000
	CTONG2028124	0.000	1.211	0.913	0.000
	CTONG3003905	0.000	47.197	0.000	0.000
	CTONG3008894	0.000	7.008	9.247	2.634
	CTONG3009028	0.000	0.000	2.924	0.000
25	CTONG3009239	0.000	0.000	2.624	0.000
	DFNES2011499	0.000	0.000	22.548	0.000
	FCBBF3001977	0.000	17.952	13.536	0.000
	FEBRA1000030	0.000	0.000	0.000	59.247
	FEBRA2006396	0.000	0.000	14.606	0.000
30	FEBRA2007801	0.000	5.950	0.000	0.000
	HCHON2000028	0.000	0.000	5.766	0.000
	HCHON2000244	0.000	3.171	1.195	0.000
	HCHON2001084	0.000	0.000	4.173	0.000
	HCHON2001217	0.000	2.509	5.674	0.000
35	HCHON2001548	0.000	27.583	0.000	0.000
	HCHON2006250	0.000	3.771	0.000	0.000

	HEART1000074	0.000	1.830	0.000	0.000
	HHDPG1000118	0.000	10.102	3.809	15.191
	HSYRA2009075	0.000	2.899	0.000	0.000
	IMR322000127	0.000	3.733	0.000	0.000
5	IMR322001380	0.000	0.000	3.602	7.184
	KIDNE2000665	0.000	0.000	0.000	7.016
	KIDNE2002252	0.000	0.000	3.961	0.000
	MESAN2006563	0.000	1.664	2.510	0.000
	MESAN2012054	0.000	0.000	4.636	0.000
10	MESAN2015515	0.000	6.402	0.000	0.000
	NT2NE2003252	0.000	0.000	0.000	100.000
	NT2NE2005890	0.000	0.000	0.000	64.265
	NT2NE2006531	0.000	0.000	0.000	100.000
	NT2NE2006909	0.000	0.000	0.000	1.034
15	NT2NE2008060	0.000	0.000	0.000	74.472
	NT2RI2003993	0.000	0.000	6.899	0.000
	NT2RI2004618	0.000	0.000	100.000	0.000
	NT2RI2005166	0.000	0.000	47.393	0.000
	NT2RI2006686	0.000	0.000	21.246	0.000
20	NT2RI2008724	0.000	0.000	3.337	0.000
	NT2RI2009855	0.000	0.000	100.000	0.000
	NT2RI2011422	0.000	0.000	100.000	0.000
	NT2RI2011683	0.000	0.000	100.000	0.000
	NT2RI2012659	0.000	0.000	24.645	0.000
25	NT2RI2012990	0.000	0.000	24.360	0.000
	NT2RI2013357	0.000	0.000	73.545	0.000
	NT2RI2014247	0.000	0.000	27.718	0.000
	NT2RI2014551	0.000	0.000	100.000	0.000
	NT2RI2014733	0.000	0.000	45.319	0.000
30	NT2RI2016128	0.000	0.000	100.000	0.000
	NT2RI2018311	0.000	0.000	78.082	0.000
	NT2RI2018883	0.000	0.000	49.384	0.000
	NT2RI2019751	0.000	0.000	71.913	0.000
	NT2RI2023303	0.000	0.000	100.000	0.000
35	NT2RI2025909	0.000	0.000	100.000	0.000
	NT2RI2025957	0.000	0.000	100.000	0.000

	NT2R12027081	0.000	0.000	100.000	0.000
	NT2R12027396	0.000	0.000	100.000	0.000
	NT2R13000622	0.000	0.000	15.558	0.000
	NT2R13001263	0.000	0.000	100.000	0.000
5	NT2R13001515	0.000	0.000	19.682	0.000
	NT2R13002303	0.000	0.000	100.000	0.000
	NT2R13002842	0.000	45.164	34.054	0.000
	NT2R13002892	0.000	4.241	3.198	0.000
	NT2R13003031	0.000	0.000	100.000	0.000
10	NT2R13003095	0.000	0.000	100.000	0.000
	NT2R13003162	0.000	0.000	100.000	0.000
	NT2R13003382	0.000	0.000	71.913	0.000
	NT2R13003409	0.000	0.000	100.000	0.000
	NT2R13004381	0.000	0.000	100.000	0.000
15	NT2R13004510	0.000	0.000	51.230	0.000
	NT2R13005202	0.000	0.000	100.000	0.000
	NT2R13005403	0.000	0.000	62.102	0.000
	NT2R13005724	0.000	14.284	10.770	0.000
	NT2R13006132	0.000	0.000	100.000	0.000
20	NT2R13006171	0.000	0.000	100.000	0.000
	NT2R13006284	0.000	0.000	3.760	0.000
	NT2R13006340	0.000	0.000	14.839	0.000
	NT2R13006376	0.000	0.000	100.000	0.000
	NT2R13006673	0.000	0.000	18.135	0.000
25	NT2R13006796	0.000	0.000	100.000	0.000
	NT2R13007065	0.000	0.000	100.000	0.000
	NT2R13007158	0.000	0.000	100.000	0.000
	NT2R13007291	0.000	0.000	22.746	0.000
	NT2R13007543	0.000	0.000	1.542	6.150
30	NT2R13007757	0.000	30.480	45.964	0.000
	NT2R13007978	0.000	0.000	100.000	0.000
	NT2R13008055	0.000	0.000	40.142	0.000
	NT2R13008162	0.000	0.000	100.000	0.000
	NT2R13008652	0.000	0.000	100.000	0.000
35	NT2R13008697	0.000	0.000	100.000	0.000
	NT2R13008974	0.000	0.000	100.000	0.000

	NT2RI3009158	0.000	0.000	45.727	0.000
	NT2RP7000359	0.000	100.000	0.000	0.000
	NT2RP7000466	0.000	2.098	3.164	0.000
	NT2RP7004027	0.000	100.000	0.000	0.000
5	NT2RP7004123	0.000	4.625	0.000	0.000
	NT2RP7005118	0.000	100.000	0.000	0.000
	NT2RP7005529	0.000	35.588	0.000	0.000
	NT2RP7005846	0.000	100.000	0.000	0.000
	NT2RP7009030	0.000	46.373	0.000	0.000
10	NT2RP7009147	0.000	7.679	2.895	0.000
	NT2RP7009867	0.000	100.000	0.000	0.000
	NT2RP7010128	0.000	100.000	0.000	0.000
	NT2RP7010599	0.000	77.250	0.000	0.000
	NT2RP7011570	0.000	100.000	0.000	0.000
15	NT2RP7013795	0.000	10.432	0.000	0.000
	NT2RP7014005	0.000	14.022	21.145	0.000
	NT2RP7015512	0.000	31.156	0.000	0.000
	NT2RP7017365	0.000	100.000	0.000	0.000
	NT2RP7017474	0.000	45.366	0.000	0.000
20	NT2RP7017546	0.000	100.000	0.000	0.000
	NT2RP8000137	0.000	100.000	0.000	0.000
	NT2RP8000296	0.000	100.000	0.000	0.000
	NT2RP8000483	0.000	100.000	0.000	0.000
	NTONG2005969	0.000	15.484	0.000	0.000
25	OCBBF2007028	0.000	0.000	2.509	0.000
	OCBBF2037068	0.000	0.000	27.189	54.224
	PLACE7000514	0.000	0.000	8.644	0.000
	PUAEN2007044	0.000	3.455	13.024	0.000
	SPLEN2002467	0.000	7.852	0.000	0.000
30	SPLEN2006122	0.000	0.000	1.530	0.000
	SPLEN2028914	0.000	6.730	10.149	0.000
	SPLEN2031547	0.000	0.000	2.861	0.000
	SYNOV4002346	0.000	0.000	10.899	0.000
	SYNOV4007671	42.189	0.000	0.000	2.657
35	SYNOV4008440	0.000	0.000	2.681	0.000
	TESOP2002273	0.000	9.782	0.000	0.000

	TESTI2003573	0.000	0.000	13.573	0.000
	TESTI4000014	0.000	3.443	0.974	0.000
	TESTI4009286	0.000	1.747	0.000	0.000
	TESTI4010851	0.000	5.270	1.987	0.000
5	TESTI4012702	0.000	0.000	3.961	0.000
	TESTI4029671	0.000	44.826	0.000	0.000
	TESTI4037156	0.000	4.669	1.509	2.006
	THYMU3000133	0.000	34.767	8.738	0.000
	TRACH1000205	0.000	0.000	7.152	0.000
10	TRACH2005811	0.000	0.000	0.000	3.822
	TRACH2007834	0.000	3.647	1.833	0.000
	TRACH2025535	0.000	1.399	3.165	4.208
	TRACH3001427	0.000	8.951	1.687	3.365
	TRACH3002192	0.000	0.000	2.267	4.520
15	TRACH3004721	0.000	14.013	5.283	10.536
	TRACH3008093	0.000	0.000	8.902	0.000
	TRACH3008535	0.000	68.270	0.000	0.000
	TRACH3008713	0.000	68.270	0.000	0.000
	UTERU2002410	0.000	0.000	1.067	0.000
20	UTERU2023175	0.000	7.176	0.000	5.396
	ADRL2000042	0.000	0.000	0.000	9.204
	BRACE2003609	0.000	21.907	0.000	32.942
	BRACE3003026	0.000	0.000	59.349	0.000
	BRHIP3000017	0.000	0.000	8.013	0.000
25	CTONG2020411	0.000	16.593	25.022	0.000
	FCBBF1000509	0.000	0.000	0.000	6.762
	FCBBF3027854	0.000	0.000	28.447	0.000
	FEBRA2028516	0.000	11.027	6.236	0.000
	HCHON2000508	0.000	0.900	0.000	0.000
30	IMR322001879	0.000	0.000	35.028	0.000
	NT2RI2005772	0.000	0.000	100.000	0.000
	NT2RI2008952	0.000	0.000	100.000	0.000
	NT2RI2009583	0.000	0.000	0.813	0.811
	NT2RI2018448	0.000	15.176	11.442	0.000
35	NT2RI2027157	0.000	0.000	100.000	0.000
	NT2RI3000174	0.000	0.000	61.866	0.000

	NT2RI3001132	0.000	0.000	100.000	0.000
	NT2RI3002557	0.000	0.000	100.000	0.000
	NT2RI3005928	0.000	0.000	100.000	0.000
	NT2RI3007167	0.000	0.000	100.000	0.000
5	NT2RI3007443	0.000	0.000	100.000	0.000
	NT2RP7008435	0.000	100.000	0.000	0.000
	NT2RP8000521	0.000	62.933	0.000	0.000
	OCBBF2006987	0.000	62.306	0.000	0.000
	PERIC2007068	0.000	3.719	2.804	0.000
10	TESTI2015626	9.463	0.000	0.000	2.384
	TESTI4015442	0.000	48.593	0.000	0.000
	TLIVE2002046	0.000	0.000	3.298	0.000
	TRACH3000134	0.000	43.581	0.000	0.000
	TUTER2000057	0.000	0.000	7.539	0.000

15

The result of comparative analysis of cDNA libraries derived from the cerebral cortex of Alzheimer patients (BRALZ and BRASW), and from whole tissues of a normal brain (BRAWH) showed the following genes whose expression levels differed between the two.

20

Table 4

Clone ID	BRAWH	BRALZ	BRASW
25			
	ASTR01000009	2.611	0.000
	BLADE2008398	12.401	0.000
	BRACE1000186	4.324	0.000
	BRACE1000258	31.956	0.000
30	BRACE1000533	11.795	0.000
	BRACE2005457	58.488	0.000
	BRACE2010489	63.510	0.000
	BRACE2014657	15.451	0.000
	BRACE2035381	10.177	0.000
35	BRACE2044286	18.667	0.000
	BRACE2045954	27.309	0.000

	BRACE3000787	32.844	0.000	0.000
	BRACE3003192	58.488	0.000	0.000
	BRACE3005499	31.276	0.000	0.000
	BRACE3007480	19.471	0.000	0.000
5	BRACE3009237	18.139	0.000	0.000
	BRACE3009724	58.488	0.000	0.000
	BRACE3009747	2.237	0.000	0.000
	BRACE3010428	6.868	0.000	0.000
	BRACE3011271	11.036	0.000	0.000
10	BRACE3011421	28.251	0.000	0.000
	BRACE3012364	8.506	0.000	0.000
	BRACE3022769	4.285	0.000	0.000
	BRACE3026735	24.173	0.000	0.000
	BRACE3031838	58.488	0.000	0.000
15	BRALZ2011796	5.511	39.830	0.000
	BRALZ2012183	0.000	100.000	0.000
	BRALZ2012848	0.000	100.000	0.000
	BRALZ2014484	0.000	100.000	0.000
	BRALZ2016085	0.000	100.000	0.000
20	BRALZ2016498	0.000	100.000	0.000
	BRALZ2017359	0.000	75.184	0.000
	BRAMY2003008	26.445	0.000	0.000
	BRAMY2005052	11.612	0.000	0.000
	BRAMY2019300	49.811	0.000	0.000
25	BRAMY2019963	20.428	0.000	0.000
	BRAMY2036567	7.474	0.000	0.000
	BRAMY2037823	29.664	0.000	0.000
	BRAMY2040592	3.482	12.582	0.000
	BRAMY3002803	14.428	0.000	0.000
30	BRAMY3004224	33.027	0.000	0.000
	BRAMY3005091	19.193	0.000	0.000
	BRASW1000053	0.000	0.000	100.000
	BRASW1000125	0.000	0.000	99.054
	BRAWH1000127	15.983	0.000	0.000
35	BRAWH2001395	14.290	3.037	0.000
	BRAWH2001671	7.605	0.000	0.000

	BRAWH2001940	37.398	0.000	0.000
	BRAWH2001973	37.398	0.000	0.000
	BRAWH2002560	6.454	0.000	0.000
	BRAWH2002761	100.000	0.000	0.000
5	BRAWH2005315	100.000	0.000	0.000
	BRAWH2007658	58.101	0.000	0.000
	BRAWH2010000	18.745	0.000	0.000
	BRAWH2010084	100.000	0.000	0.000
	BRAWH2010536	14.718	0.000	0.000
10	BRAWH2012162	36.060	0.000	0.000
	BRAWH2012326	100.000	0.000	0.000
	BRAWH2013294	39.442	0.000	0.000
	BRAWH2013871	37.485	0.000	0.000
	BRAWH2014414	17.865	0.000	0.000
15	BRAWH2014645	4.228	0.000	0.000
	BRAWH2014662	15.521	0.000	0.000
	BRAWH2014876	10.473	0.000	0.000
	BRAWH2014954	58.488	0.000	0.000
	BRAWH2016221	47.417	0.000	0.000
20	BRAWH2016439	100.000	0.000	0.000
	BRAWH2016702	73.807	0.000	0.000
	BRAWH2016724	35.119	0.000	0.000
	BRAWH3000078	100.000	0.000	0.000
	BRAWH3000100	100.000	0.000	0.000
25	BRAWH3000314	71.553	0.000	0.000
	BRAWH3000491	100.000	0.000	0.000
	BRAWH3001326	45.606	0.000	0.000
	BRAWH3001475	100.000	0.000	0.000
	BRAWH3001891	34.539	0.000	0.000
30	BRAWH3002574	13.222	0.000	0.000
	BRAWH3002600	36.800	0.000	0.000
	BRAWH3002819	100.000	0.000	0.000
	BRAWH3002821	21.953	0.000	0.000
	BRAWH3003522	100.000	0.000	0.000
35	BRAWH3003555	15.229	0.000	0.000
	BRAWH3003727	10.055	0.000	0.000

	BRAWH3003801	100.000	0.000	0.000
	BRAWH3003992	29.008	0.000	0.000
	BRAWH3004453	100.000	0.000	0.000
	BRAWH3004666	49.499	0.000	0.000
5	BRAWH3005132	49.811	0.000	0.000
	BRAWH3005422	100.000	0.000	0.000
	BRAWH3005912	100.000	0.000	0.000
	BRAWH3005981	29.324	0.000	0.000
	BRAWH3006548	71.018	0.000	0.000
10	BRAWH3006792	49.499	0.000	0.000
	BRAWH3007221	100.000	0.000	0.000
	BRAWH3007506	100.000	0.000	0.000
	BRAWH3007592	8.966	0.000	0.000
	BRAWH3007726	54.530	0.000	0.000
15	BRAWH3007783	100.000	0.000	0.000
	BRAWH3008341	100.000	0.000	0.000
	BRAWH3008697	100.000	0.000	0.000
	BRAWH3008931	3.463	0.000	0.000
	BRAWH3009297	58.488	0.000	0.000
20	BRC0C2003213	10.381	0.000	0.000
	BRC0C2014033	15.633	0.000	0.000
	BRC0C2020142	22.014	0.000	0.000
	BRHIP2000920	36.630	0.000	0.000
	BRHIP2005719	49.499	0.000	0.000
25	BRHIP2007741	6.943	0.000	0.000
	BRHIP2014228	29.439	0.000	0.000
	BRHIP2024146	3.042	12.091	0.000
	BRHIP2026288	0.000	77.982	0.000
	BRHIP3000339	14.290	3.037	0.000
30	BRHIP3006683	24.100	0.000	0.000
	BRHIP3007586	17.255	0.000	0.000
	BRHIP3008405	35.187	0.000	0.000
	BRHIP3018797	30.810	4.840	0.000
	BRSSN2000684	23.433	0.000	0.000
35	BRSSN2011738	31.553	0.000	0.000
	BRSSN2014299	3.695	0.000	0.000

	BRSTN2008052	32.844	0.000	0.000
	BRSTN2015015	14.017	0.000	0.000
	BRSTN2016470	0.438	7.909	0.000
	BRTHA1000311	11.803	0.000	0.000
5	BRTHA2008335	16.281	0.000	0.000
	BRTHA3002427	8.577	0.000	0.000
	BRTHA3003490	1.623	0.000	0.000
	BRTHA3008520	47.417	0.000	0.000
	BRTHA3017848	47.417	0.000	0.000
10	COLON2001721	11.065	0.000	0.000
	CTONG2017500	2.649	0.000	0.000
	CTONG2028124	0.503	0.000	0.000
	CTONG3000657	3.880	0.000	0.000
	CTONG3001123	7.847	0.000	0.000
15	CTONG3009328	11.993	43.334	0.000
	FCBBF2001183	16.537	5.975	0.000
	FCBBF3001977	7.448	0.000	0.000
	FEBRA2007544	14.689	0.000	0.000
	FEBRA2007801	4.937	0.000	0.000
20	FEBRA2020886	12.124	0.000	0.000
	FEBRA2028618	5.082	0.000	0.000
	HCASM2007047	3.431	0.000	0.000
	HCHON2000244	0.658	0.000	0.000
	HCHON2000626	2.351	0.000	0.000
25	HCHON2001217	3.123	0.000	0.000
	HCHON2002676	13.647	0.000	0.000
	HCHON2006250	1.565	0.000	0.000
	HEART1000074	0.759	0.000	0.000
	HHDPC1000118	2.096	0.000	0.000
30	HLUNG2002465	1.209	0.000	0.000
	IMR322000127	3.098	5.597	0.000
	IMR322001380	0.000	7.163	0.000
	IMR322002035	36.176	0.000	0.000
	KIDNE2006580	7.013	0.000	0.000
35	MESAN2006563	0.691	0.000	0.000
	MESAN2012054	12.754	0.000	0.000

	MESTC1000042	2.245	0.000	0.000
	NOVAR2001783	4.027	0.000	0.000
	NT2NE2006909	0.285	0.000	0.000
	NT2RI2008724	1.836	0.000	0.000
5	NT2RI2012659	13.562	0.000	0.000
	NT2RI2014733	24.938	0.000	0.000
	NT2RI3002892	8.799	0.000	0.000
	NT2RI3006284	4.138	0.000	0.000
	NT2RI3006673	19.959	0.000	0.000
10	NT2RI3007543	1.697	0.000	0.000
	NT2RI3008055	44.179	0.000	0.000
	NT2RP7005529	14.766	0.000	0.000
	NT2RP7009147	14.337	0.000	0.000
	NT2RP7014005	5.818	0.000	0.000
15	NT2RP7017474	18.823	0.000	0.000
	NTONG2005969	0.000	11.607	0.000
	OCBBF2001794	4.728	0.000	0.000
	OCBBF2006005	9.535	0.000	0.000
	OCBBF2006764	15.345	0.000	0.000
20	OCBBF2007028	9.665	0.000	0.000
	OCBBF2007114	0.000	38.623	0.000
	OCBBF2010140	32.508	0.000	0.000
	OCBBF2021286	18.456	0.000	0.000
	OCBBF2023162	0.000	37.152	0.000
25	OCBBF2024850	4.445	0.000	0.000
	OCBBF2028935	5.789	4.183	0.000
	OCBBF2036743	11.053	0.000	0.000
	OCBBF2038317	19.713	0.000	0.000
	OCBBF3000483	11.973	0.000	0.000
30	OCBBF3008230	29.840	0.000	0.000
	PEBLM2004666	3.715	0.000	0.000
	PLACE6001185	21.358	0.000	0.000
	PUAEN2005930	18.362	0.000	0.000
	PUAEN2006701	2.249	8.128	0.000
35	PUAEN2007044	8.600	0.000	0.000
	PUAEN2009655	18.275	0.000	0.000

	SMINT2001818	0.000	3.387	0.000
	SPLEN2028914	2.792	0.000	0.000
	SPLEN2031424	15.229	0.000	0.000
	SPLEN2031547	1.574	5.689	0.000
5	SPLEN2034781	27.984	0.000	0.000
	SPLEN2036932	2.932	0.000	0.000
	SYNOV2014400	12.977	0.000	0.000
	SYNOV4002346	5.997	0.000	0.000
	SYNOV4002883	23.940	0.000	0.000
10	SYNOV4007430	31.677	0.000	0.000
	SYNOV4007671	0.000	2.649	0.000
	SYNOV4008440	1.475	0.000	0.000
	TESOP2002273	0.000	14.666	0.000
	TESOP2002451	2.375	0.000	0.000
15	TESTI4000014	1.964	0.000	0.000
	TESTI4000209	2.649	0.000	0.000
	TESTI4001100	4.098	0.000	0.000
	TESTI4006137	25.755	0.000	0.000
	TESTI4008797	12.429	0.000	0.000
20	TESTI4009286	1.450	0.000	0.000
	TESTI4010851	3.280	0.000	0.000
	TESTI4013817	27.163	0.000	0.000
	TESTI4014694	2.229	0.000	0.000
	TESTI4021478	22.098	0.000	0.000
25	TESTI4022936	26.445	0.000	0.000
	TESTI4024420	37.398	0.000	0.000
	TESTI4027821	60.471	0.000	0.000
	THYMU2001090	21.252	0.000	0.000
	THYMU2033308	13.964	0.000	0.000
30	THYMU2035735	1.319	0.000	0.000
	THYMU2039315	54.530	0.000	0.000
	THYMU3001234	11.085	0.000	0.000
	THYMU3008171	20.170	0.000	0.000
	TKIDN2009641	5.782	0.000	0.000
35	TKIDN2009889	35.077	0.000	0.000
	TKIDN2015788	5.261	9.505	0.000

	TRACH1000205	19.677	0.000	0.000
	TRACH2001549	8.457	0.000	0.000
	TRACH2005811	2.109	0.000	0.000
	TRACH2006049	47.167	0.000	0.000
5	TRACH2007834	0.504	0.000	0.000
	TRACH2008300	10.186	6.135	0.000
	TRACH2025535	5.806	0.000	0.000
	TRACH3001427	5.571	3.355	0.000
	TRACH3002192	4.989	2.253	0.000
10	TRACH3004068	0.000	5.150	0.000
	TRACH3004721	8.721	0.000	0.000
	TRACH3005294	7.428	0.000	0.000
	TRACH3007479	1.075	0.000	0.000
	TRACH3008093	2.449	0.000	0.000
15	TRACH3009455	47.167	0.000	0.000
	UTERU2005621	0.000	8.145	0.000
	UTERU2006115	7.837	0.000	0.000
	UTERU2019706	45.606	0.000	0.000
	UTERU2023039	45.606	0.000	0.000
20	UTERU2026203	45.606	0.000	0.000
	UTERU3005230	24.419	0.000	0.000
	UTERU3007640	45.606	0.000	0.000
	UTERU3009871	36.230	0.000	0.000
	ADRGL2000042	2.540	0.000	0.000
25	BLADE2006830	1.681	0.000	0.000
	BRACE2003609	9.090	0.000	0.000
	BRALZ2017844	0.000	49.396	0.000
	BRAMY3004800	38.061	0.000	0.000
	BRAWH1000369	100.000	0.000	0.000
30	BRAWH2006207	12.943	0.000	0.000
	BRAWH2006395	12.446	0.000	0.000
	BRAWH2008993	49.811	0.000	0.000
	BRAWH2009393	100.000	0.000	0.000
	BRAWH2010552	58.488	0.000	0.000
35	BRAWH3007441	100.000	0.000	0.000
	BRAWH3009017	100.000	0.000	0.000

	BRHIP2005271	7.083	0.000	0.000
	BRHIP3000017	8.819	0.000	0.000
	BRHIP3026052	0.000	54.140	0.000
	BRTHA2018443	22.098	0.000	0.000
5	BRTHA3003000	17.150	0.000	0.000
	CTONG2020374	31.081	0.000	0.000
	CTONG2020378	16.140	0.000	0.000
	CTONG2024031	2.584	0.000	0.000
	FCBBF1000509	3.732	0.000	0.000
10	FEBRA2001990	18.144	0.000	0.000
	FEBRA2006519	11.891	0.000	0.000
	FEBRA2028516	8.007	0.000	0.000
	HCHON2000743	6.105	0.000	0.000
	IMR322001879	9.638	0.000	0.000
15	NT2R12009583	0.224	0.808	0.000
	OCBBF2008144	5.768	0.000	0.000
	PERIC2007068	3.086	0.000	0.000
	PUAEN2006335	12.682	0.000	0.000
	SPLEN2039379	5.792	0.000	0.000
20	TEST14001984	60.471	0.000	0.000
	TEST14008058	8.814	0.000	0.000
	TEST14025268	60.471	0.000	0.000
	TEST14032090	60.471	0.000	0.000
	THYMU3000360	39.314	0.000	0.000
25	TLIVE2002046	5.445	0.000	0.000
	TRACH3000134	36.165	0.000	0.000
	UTERU2021820	24.929	0.000	0.000
	UTERU2028734	21.953	0.000	0.000

30 The result of comparative analysis of cDNA libraries derived from the substantia nigra (BRSSN), and from whole tissues of a normal brain (BRAWH) showed following genes whose expression levels differed between the two.

35 Table 5

	Clone ID	BRAWH	BRSSN
	ASTR01000009	2. 611	0. 000
	BLADE2008398	12. 401	0. 000
5	BRACE1000186	4. 324	0. 000
	BRACE1000258	31. 956	0. 000
	BRACE1000533	11. 795	8. 780
	BRACE2005457	58. 488	0. 000
	BRACE2010489	63. 510	0. 000
10	BRACE2014657	15. 451	0. 000
	BRACE2035381	10. 177	0. 000
	BRACE2044286	18. 667	0. 000
	BRACE2045954	27. 309	0. 000
	BRACE3000787	32. 844	0. 000
15	BRACE3003192	58. 488	0. 000
	BRACE3005499	31. 276	0. 000
	BRACE3007480	19. 471	0. 000
	BRACE3009237	18. 139	0. 000
	BRACE3009724	58. 488	0. 000
20	BRACE3009747	2. 237	8. 327
	BRACE3010428	6. 868	4. 261
	BRACE3011271	11. 036	0. 000
	BRACE3011421	28. 251	0. 000
	BRACE3012364	8. 506	0. 000
25	BRACE3013780	0. 000	17. 852
	BRACE3022769	4. 285	5. 316
	BRACE3026735	24. 173	0. 000
	BRACE3031838	58. 488	0. 000
	BRALZ2011796	5. 511	20. 514
30	BRAMY2003008	26. 445	0. 000
	BRAMY2005052	11. 612	0. 000
	BRAMY2019300	49. 811	0. 000
	BRAMY2019963	20. 428	0. 000
	BRAMY2036567	7. 474	0. 000
35	BRAMY2037823	29. 664	0. 000
	BRAMY2040592	3. 482	0. 000

	BRAMY2047420	0.000	3.770
	BRAMY3002803	14.428	0.000
	BRAMY3004224	33.027	0.000
	BRAMY3005091	19.193	0.000
5	BRAWH1000127	15.983	35.693
	BRAWH2001395	14.290	12.514
	BRAWH2001671	7.605	0.000
	BRAWH2001940	37.398	0.000
	BRAWH2001973	37.398	0.000
10	BRAWH2002560	6.454	12.010
	BRAWH2002761	100.000	0.000
	BRAWH2005315	100.000	0.000
	BRAWH2007658	58.101	0.000
	BRAWH2010000	18.745	0.000
15	BRAWH2010084	100.000	0.000
	BRAWH2010536	14.718	0.000
	BRAWH2012162	36.060	0.000
	BRAWH2012326	100.000	0.000
	BRAWH2013294	39.442	0.000
20	BRAWH2013871	37.485	0.000
	BRAWH2014414	17.865	0.000
	BRAWH2014645	4.228	0.000
	BRAWH2014662	15.521	0.000
	BRAWH2014876	10.473	0.000
25	BRAWH2014954	58.488	0.000
	BRAWH2016221	47.417	0.000
	BRAWH2016439	100.000	0.000
	BRAWH2016702	73.807	0.000
	BRAWH2016724	35.119	0.000
30	BRAWH3000078	100.000	0.000
	BRAWH3000100	100.000	0.000
	BRAWH3000314	71.553	0.000
	BRAWH3000491	100.000	0.000
	BRAWH3001326	45.606	0.000
35	BRAWH3001475	100.000	0.000
	BRAWH3001891	34.539	0.000

	BRAWH3002574	13.222	0.000
	BRAWH3002600	36.800	0.000
	BRAWH3002819	100.000	0.000
	BRAWH3002821	21.953	0.000
5	BRAWH3003522	100.000	0.000
	BRAWH3003555	15.229	0.000
	BRAWH3003727	10.055	0.000
	BRAWH3003801	100.000	0.000
	BRAWH3003992	29.008	0.000
10	BRAWH3004453	100.000	0.000
	BRAWH3004666	49.499	0.000
	BRAWH3005132	49.811	0.000
	BRAWH3005422	100.000	0.000
	BRAWH3005912	100.000	0.000
15	BRAWH3005981	29.324	0.000
	BRAWH3006548	71.018	0.000
	BRAWH3006792	49.499	0.000
	BRAWH3007221	100.000	0.000
	BRAWH3007506	100.000	0.000
20	BRAWH3007592	8.966	0.000
	BRAWH3007726	54.530	0.000
	BRAWH3007783	100.000	0.000
	BRAWH3008341	100.000	0.000
	BRAWH3008697	100.000	0.000
25	BRAWH3008931	3.463	12.891
	BRAWH3009297	58.488	0.000
	BRCOC2003213	10.381	0.000
	BRCOC2014033	15.633	0.000
	BRCOC2020142	22.014	0.000
30	BRHIP2000920	36.630	0.000
	BRHIP2005719	49.499	0.000
	BRHIP2007741	6.943	0.000
	BRHIP2014228	29.439	0.000
	BRHIP2024146	3.042	10.190
35	BRHIP3000339	14.290	12.514
	BRHIP3006683	24.100	0.000

	BRHIP3007586	17.255	0.000
	BRHIP3008405	35.187	0.000
	BRHIP3018797	30.810	0.000
	BRSSN2000684	23.433	17.444
5	BRSSN2003086	0.000	100.000
	BRSSN2004496	0.000	78.696
	BRSSN2004719	0.000	39.002
	BRSSN2006892	0.000	57.631
	BRSSN2008549	0.000	63.611
10	BRSSN2008797	0.000	77.045
	BRSSN2011262	0.000	10.489
	BRSSN2011738	31.553	39.146
	BRSSN2013874	0.000	100.000
	BRSSN2014299	3.695	13.753
15	BRSSN2014424	0.000	61.866
	BRSSN2014556	0.000	100.000
	BRSSN2018581	0.000	50.137
	BRSSN2018925	0.000	100.000
	BRSTN2008052	32.844	0.000
20	BRSTN2015015	14.017	0.000
	BRSTN2016470	0.438	0.000
	BRTHA1000311	11.803	10.982
	BRTHA2003461	0.000	8.169
	BRTHA2008335	16.281	0.000
25	BRTHA3002427	8.577	10.641
	BRTHA3003490	1.623	0.000
	BRTHA3008520	47.417	0.000
	BRTHA3017848	47.417	0.000
	COLON2001721	11.065	0.000
30	CTONG2017500	2.649	0.000
	CTONG2028124	0.503	0.000
	CTONG3000657	3.880	0.000
	CTONG3001123	7.847	0.000
	CTONG3009328	11.993	0.000
35	FCBBF2001183	16.537	6.155
	FCBBF3001977	7.448	0.000

	FEBRA2007544	14.689	0.000
	FEBRA2007801	4.937	0.000
	FEBRA2020886	12.124	0.000
	FEBRA2024136	0.000	42.701
5	FEBRA2025427	0.000	9.226
	FEBRA2028618	5.082	0.000
	HCASM2007047	3.431	0.000
	HCHON2000244	0.658	0.000
	HCHON2000626	2.351	4.375
10	HCHON2001217	3.123	0.000
	HCHON2002676	13.647	0.000
	HCHON2006250	1.565	0.000
	HEART1000074	0.759	0.000
	HHDPC1000118	2.096	0.000
15	HLUNG2002465	1.209	0.000
	IMR322000127	3.098	0.000
	IMR322002035	36.176	0.000
	KIDNE2006580	7.013	0.000
	MESAN2006563	0.691	2.570
20	MESAN2012054	12.754	0.000
	MESTC1000042	2.245	0.000
	NOVAR2001783	4.027	0.000
	NT2NE2006909	0.285	0.000
	NT2RI2008724	1.836	0.000
25	NT2RI2012659	13.562	0.000
	NT2RI2014733	24.938	0.000
	NT2RI3002892	8.799	0.000
	NT2RI3006284	4.138	0.000
	NT2RI3006673	19.959	0.000
30	NT2RI3007543	1.697	0.000
	NT2RI3008055	44.179	0.000
	NT2RP7005529	14.766	0.000
	NT2RP7009147	14.337	0.000
	NT2RP7014005	5.818	0.000
35	NT2RP7017474	18.823	0.000
	OCBBF2001794	4.728	0.000

	OCBBF2006005	9.535	0.000
	OCBBF2006764	15.345	0.000
	OCBBF2007028	9.665	0.000
	OCBBF2010140	32.508	0.000
5	OCBBF2021286	18.456	0.000
	OCBBF2024850	4.445	0.000
	OCBBF2028935	5.789	8.618
	OCBBF2036743	11.053	0.000
	OCBBF2038317	19.713	0.000
10	OCBBF3000483	11.973	0.000
	OCBBF3008230	29.840	0.000
	PEBLM2004666	3.715	0.000
	PLACE6001185	21.358	0.000
	PUAEN2005930	18.362	0.000
15	PUAEN2006701	2.249	0.000
	PUAEN2007044	8.600	0.000
	PUAEN2009655	18.275	0.000
	SPLEN2028914	2.792	0.000
	SPLEN2031424	15.229	0.000
20	SPLEN2031547	1.574	0.000
	SPLEN2034781	27.984	0.000
	SPLEN2036932	2.932	0.000
	SYNOV2014400	12.977	0.000
	SYNOV4002346	5.997	0.000
25	SYNOV4002883	23.940	0.000
	SYNOV4007430	31.677	0.000
	SYNOV4008440	1.475	0.000
	TESOP2002451	2.375	0.000
	TESTI4000014	1.964	0.665
30	TESTI4000209	2.649	0.000
	TESTI4001100	4.098	0.000
	TESTI4006137	25.755	0.000
	TESTI4008797	12.429	0.000
	TESTI4009286	1.450	0.000
35	TESTI4010851	3.280	2.035
	TESTI4013817	27.163	0.000

	TESTI4014694	2.229	0.000
	TESTI4021478	22.098	0.000
	TESTI4022936	26.445	0.000
	TESTI4024420	37.398	0.000
5	TESTI4027821	60.471	0.000
	TESTI4037156	0.000	2.060
	THYMU2001090	21.252	0.000
	THYMU2033308	13.964	0.000
	THYMU2035735	1.319	0.000
10	THYMU2039315	54.530	0.000
	THYMU3001234	11.085	0.000
	THYMU3008171	20.170	0.000
	TKIDN2009641	5.782	21.519
	TKIDN2009889	35.077	0.000
15	TKIDN2015788	5.261	0.000
	TRACH1000205	19.677	0.000
	TRACH2001549	8.457	0.000
	TRACH2005811	2.109	0.000
	TRACH2006049	47.167	0.000
20	TRACH2007834	0.504	1.877
	TRACH2008300	10.186	0.000
	TRACH2025535	5.806	0.000
	TRACH3001427	5.571	0.000
	TRACH3002192	4.989	2.321
25	TRACH3004721	8.721	0.000
	TRACH3005294	7.428	0.000
	TRACH3007479	1.075	0.000
	TRACH3008093	2.449	0.000
	TRACH3009455	47.167	0.000
30	UTERU2006115	7.837	0.000
	UTERU2019706	45.606	0.000
	UTERU2023039	45.606	0.000
	UTERU2026203	45.606	0.000
	UTERU3005230	24.419	0.000
35	UTERU3007640	45.606	0.000
	UTERU3009871	36.230	0.000

	ADRGL2000042	2.540	18.905
	BLADE2006830	1.681	0.000
	BRACE2003609	9.090	0.000
	BRAMY3004800	38.061	0.000
5	BRAWH1000369	100.000	0.000
	BRAWH2006207	12.943	48.175
	BRAWH2006395	12.446	0.000
	BRAWH2008993	49.811	0.000
	BRAWH2009393	100.000	0.000
10	BRAWH2010552	58.488	0.000
	BRAWH3007441	100.000	0.000
	BRAWH3009017	100.000	0.000
	BRHIP2005271	7.083	0.000
	BRHIP3000017	8.819	0.000
15	BRTHA2018443	22.098	0.000
	BRTHA3003000	17.150	63.832
	CTONG2020374	31.081	0.000
	CTONG2020378	16.140	0.000
	CTONG2024031	2.584	0.000
20	FCBBF1000509	3.732	6.945
	FEBRA2001990	18.144	0.000
	FEBRA2006519	11.891	0.000
	FEBRA2028516	8.007	0.000
	HCHON2000743	6.105	0.000
25	IMR322001879	9.638	0.000
	NT2RI2009583	0.224	1.665
	OCBBF2008144	5.768	0.000
	PERIC2007068	3.086	0.000
	PUAEN2006335	12.682	0.000
30	SPLEN2039379	5.792	0.000
	TESTI2015626	0.000	1.224
	TESTI4001984	60.471	0.000
	TESTI400805^	8.814	0.000
	TESTI4025268	60.471	0.000
35	TESTI4032090	60.471	0.000
	THYMU3000360	39.314	0.000

TLIVE2002046	5.445	0.000
TRACH3000134	36.165	0.000
UTERU2021820	24.929	0.000
UTERU2028734	21.953	0.000

5

The result of comparative analysis of cDNA libraries derived from the hippocampus (BRHIP), and from whole tissues of a normal brain (BRAWH) showed following genes whose expression levels differed between the two.

10

Table 6

	Clone ID	BRAWH	BRHIP
15	ASTR01000009	2.611	0.000
	BLADE2001371	0.000	12.691
	BLADE2008398	12.401	18.978
	BNGH42007788	0.000	3.141
	BRACE1000186	4.324	2.206
20	BRACE1000258	31.956	0.000
	BRACE1000533	11.795	9.627
	BRACE2005457	58.488	0.000
	BRACE2010489	63.510	10.799
	BRACE2014657	15.451	0.000
25	BRACE2015058	0.000	8.947
	BRACE2018762	0.000	58.973
	BRACE2030341	0.000	7.057
	BRACE2035381	10.177	20.766
	BRACE2044286	18.667	0.000
30	BRACE2045954	27.309	0.000
	BRACE3000787	32.844	0.000
	BRACE3003192	58.488	0.000
	BRACE3005499	31.276	0.000
	BRACE3007480	19.471	52.973
35	BRACE3009237	18.139	37.013
	BRACE3009724	58.488	0.000

	BRACE3009747	2. 237	2. 283
	BRACE3010428	6. 868	2. 336
	BRACE3011271	11. 036	11. 259
	BRACE3011421	28. 251	0. 000
5	BRACE3012364	8. 506	4. 339
	BRACE3018963	0. 000	58. 973
	BRACE3022769	4. 285	4. 372
	BRACE3026735	24. 173	0. 000
	BRACE3031838	58. 488	0. 000
10	BRALZ2011796	5. 511	0. 000
	BRAMY2003008	26. 445	0. 000
	BRAMY2005052	11. 612	0. 000
	BRAMY2019300	49. 811	0. 000
	BRAMY2019963	20. 428	6. 947
15	BRAMY2031317	0. 000	16. 004
	BRAMY2036567	7. 474	7. 626
	BRAMY2037823	29. 664	0. 000
	BRAMY2040592	3. 482	7. 105
	BRAMY2044078	0. 000	8. 947
20	BRAMY3002803	14. 428	44. 161
	BRAMY3004224	33. 027	33. 695
	BRAMY3005091	19. 193	0. 000
	BRAMY3009811	0. 000	66. 943
	BRAWH1000127	15. 983	3. 261
25	BRAWH2001395	14. 290	22. 297
	BRAWH2001671	7. 605	11. 638
	BRAWH2001940	37. 398	38. 155
	BRAWH2001973	37. 398	38. 155
	BRAWH2002560	6. 454	3. 292
30	BRAWH2002761	100. 000	0. 000
	BRAWH2005315	100. 000	0. 000
	BRAWH2007658	58. 101	0. 000
	BRAWH2010000	1°. 745	3°. 249
	BRAWH2010084	100. 000	0. 000
35	BRAWH2010536	14. 718	0. 000
	BRAWH2012162	36. 060	0. 000

	BRAWH2012326	100.000	0.000
	BRAWH2013294	39.442	10.060
	BRAWH2013871	37.485	0.000
	BRAWH2014414	17.865	18.227
5	BRAWH2014645	4.228	1.078
	BRAWH2014662	15.521	0.000
	BRAWH2014876	10.473	0.000
	BRAWH2014954	58.488	0.000
	BRAWH2016221	47.417	0.000
10	BRAWH2016439	100.000	0.000
	BRAWH2016702	73.807	0.000
	BRAWH2016724	35.119	0.000
	BRAWH3000078	100.000	0.000
	BRAWH3000100	100.000	0.000
15	BRAWH3000314	71.553	0.000
	BRAWH3000491	100.000	0.000
	BRAWH3001326	45.606	0.000
	BRAWH3001475	100.000	0.000
	BRAWH3001891	34.539	0.000
20	BRAWH3002574	13.222	0.000
	BRAWH3002600	36.800	0.000
	BRAWH3002819	100.000	0.000
	BRAWH3002821	21.953	0.000
	BRAWH3003522	100.000	0.000
25	BRAWH3003555	15.229	0.000
	BRAWH3003727	10.055	10.259
	BRAWH3003801	100.000	0.000
	BRAWH3003992	29.008	0.000
	BRAWH3004453	100.000	0.000
30	BRAWH3004666	49.499	50.501
	BRAWH3005132	49.811	0.000
	BRAWH3005422	100.000	0.000
	BRAWH3005912	100.000	0.000
	BRAWH3005981	29.324	0.000
35	BRAWH3006548	71.018	28.982
	BRAWH3006792	49.499	50.501

	BRAWH3007221	100.000	0.000
	BRAWH3007506	100.000	0.000
	BRAWH3007592	8.966	3.659
	BRAWH3007726	54.530	0.000
5	BRAWH3007783	100.000	0.000
	BRAWH3008341	100.000	0.000
	BRAWH3008697	100.000	0.000
	BRAWH3008931	3.463	10.601
	BRAWH3009297	58.488	0.000
10	BRCAN2020710	0.000	22.176
	BRCAN2028355	0.000	1.507
	BRCOC2003213	10.381	0.000
	BRCOC2014033	15.633	15.950
	BRCOC2020142	22.014	0.000
15	BRHIP2000691	0.000	100.000
	BRHIP2000819	0.000	2.204
	BRHIP2000826	0.000	100.000
	BRHIP2000920	36.630	37.371
	BRHIP2001074	0.000	39.976
20	BRHIP2001805	0.000	14.757
	BRHIP2001927	0.000	100.000
	BRHIP2002122	0.000	100.000
	BRHIP2002172	0.000	100.000
	BRHIP2002346	0.000	100.000
25	BRHIP2003242	0.000	100.000
	BRHIP2003786	0.000	100.000
	BRHIP2003917	0.000	11.981
	BRHIP2004312	0.000	100.000
	BRHIP2004359	0.000	24.839
30	BRHIP2004814	0.000	35.391
	BRHIP2004883	0.000	100.000
	BRHIP2005236	0.000	100.000
	BRHIP2005354	0.000	100.000
	BRHIP2005600	0.000	100.000
35	BRHIP2005719	49.499	50.501
	BRHIP2005752	0.000	58.973

	BRHIP2005932	0.000	100.000
	BRHIP2006800	0.000	100.000
	BRHIP2007616	0.000	100.000
	BRHIP2007741	6.943	3.542
5	BRHIP2009340	0.000	100.000
	BRHIP2009414	0.000	100.000
	BRHIP2009474	0.000	47.917
	BRHIP2013699	0.000	21.770
	BRHIP2014228	29.439	15.017
10	BRHIP2021615	0.000	100.000
	BRHIP2022221	0.000	47.917
	BRHIP2024146	3.042	5.897
	BRHIP2024165	0.000	100.000
	BRHIP2026061	0.000	31.199
15	BRHIP2026288	0.000	22.018
	BRHIP2029176	0.000	100.000
	BRHIP2029393	0.000	100.000
	BRHIP3000339	14.290	22.297
	BRHIP3000526	0.000	100.000
20	BRHIP3001283	0.000	50.312
	BRHIP3006683	24.100	49.175
	BRHIP3007483	0.000	100.000
	BRHIP3007586	17.255	24.645
	BRHIP3008183	0.000	100.000
25	BRHIP3008313	0.000	29.118
	BRHIP3008344	0.000	46.104
	BRHIP3008405	35.187	17.949
	BRHIP3008565	0.000	46.104
	BRHIP3008598	0.000	100.000
30	BRHIP3008997	0.000	100.000
	BRHIP3009099	0.000	35.577
	BRHIP3009448	0.000	100.000
	BRHIP3011241	0.000	100.000
	BRHIP3013765	0.000	100.000
35	BRHIP3013897	0.000	100.000
	BRHIP3015751	0.000	100.000

	BRHIP3016213	0.000	100.000
	BRHIP3018797	30.810	9.567
	BRHIP3020182	0.000	100.000
	BRHIP3024118	0.000	100.000
5	BRHIP3024533	0.000	100.000
	BRHIP3024725	0.000	100.000
	BRHIP3025161	0.000	100.000
	BRHIP3025702	0.000	100.000
	BRHIP3026097	0.000	100.000
10	BRHIP3027137	0.000	100.000
	BRHIP3027854	0.000	100.000
	BRSSN2000684	23.433	19.126
	BRSSN2004719	0.000	10.691
	BRSSN2008549	0.000	17.436
15	BRSSN2011738	31.553	0.000
	BRSSN2014299	3.695	3.770
	BRSTN2008052	32.844	0.000
	BRSTN2015015	14.017	0.000
	BRSTN2016470	0.438	0.447
20	BRSTN2018083	0.000	22.055
	BRTHA1000311	11.803	6.021
	BRTHA2002442	0.000	31.507
	BRTHA2008335	16.281	8.305
	BRTHA3000297	0.000	47.917
25	BRTHA3001721	0.000	12.017
	BRTHA3002427	8.577	2.917
	BRTHA3003490	1.623	0.000
	BRTHA3005046	0.000	47.917
	BRTHA3008520	47.417	0.000
30	BRTHA3008778	0.000	25.346
	BRTHA3009090	0.000	12.008
	BRTHA3015910	0.000	15.221
	BRTHA3017848	47.417	0.000
	COLON2001721	11.065	5.644
35	CTONG1000087	0.000	1.067
	CTONG1000088	0.000	2.981

	CTONG1000467	0.000	8.766
	CTONG2000042	0.000	3.574
	CTONG2008233	0.000	0.701
	CTONG2009423	0.000	35.391
5	CTONG2017500	2.649	0.000
	CTONG2019788	0.000	3.120
	CTONG2028124	0.503	1.026
	CTONG3000657	3.880	11.875
	CTONG3001123	7.847	0.000
10	CTONG3001370	0.000	3.574
	CTONG3002412	0.000	10.918
	CTONG3004072	0.000	19.915
	CTONG3008894	0.000	2.966
	CTONG3009239	0.000	2.946
15	CTONG3009328	11.993	0.000
	DFNES2011499	0.000	6.330
	FCBBF2001183	16.537	11.810
	FCBBF3001977	7.448	7.599
	FEBRA2000253	0.000	14.934
20	FEBRA2007544	14.689	4.995
	FEBRA2007801	4.937	7.556
	FEBRA2008287	0.000	3.007
	FEBRA2010719	0.000	17.703
	FEBRA2020886	12.124	12.369
25	FEBRA2028618	5.082	0.000
	HCASM2007047	3.431	0.000
	HCHON2000028	0.000	1.619
	HCHON2000244	0.658	0.671
	HCHON2000626	2.351	0.000
30	HCHON2001217	3.123	2.124
	HCHON2002676	13.647	0.000
	HCHON2005921	0.000	12.694
	HCHON2006250	1.565	0.000
	HEART1000074	0.759	0.000
35	HEART2007031	0.000	11.593
	HHDPC1000118	2.096	6.415

	HLUNG2002465	1.209	3.702
	HLUNG2003003	0.000	16.306
	IMR322000127	3.098	3.161
	IMR322001380	0.000	2.022
5	IMR322002035	36.176	0.000
	KIDNE2005543	0.000	18.168
	KIDNE2006580	7.013	14.310
	MESAN2006563	0.691	0.000
	MESAN2012054	12.754	15.615
10	MESTC1000042	2.245	0.000
	NOVAR2001783	4.027	0.000
	NT2NE2006909	0.285	0.000
	NT2RI2008724	1.836	1.874
	NT2RI2012659	13.562	0.000
15	NT2RI2014733	24.938	0.000
	NT2RI2018311	0.000	21.918
	NT2RI3001515	0.000	11.050
	NT2RI3002892	8.799	16.159
	NT2RI3004510	0.000	28.761
20	NT2RI3005724	0.000	12.093
	NT2RI3006284	4.138	0.000
	NT2RI3006673	19.959	10.182
	NT2RI3007291	0.000	12.770
	NT2RI3007543	1.697	0.866
25	NT2RI3008055	44.179	0.000
	NT2RP7005529	14.766	15.065
	NT2RP7009147	14.337	1.625
	NT2RP7014005	5.818	0.000
	NT2RP7017474	18.823	0.000
30	OCBBF2001794	4.728	0.000
	OCBBF2003819	0.000	21.496
	OCBBF2006005	9.535	9.728
	OCBBF2006151	0.000	11.764
	OCBBF2006764	15.345	0.000
35	OCBBF2007028	9.665	11.269
	OCBBF2007068	0.000	45.093

	OCBBF2010140	32.508	0.000
	OCBBF2020741	0.000	28.789
	OCBBF2021286	18.456	18.829
	OCBBF2024719	0.000	30.261
5	OCBBF2024850	4.445	4.535
	OCBBF2028935	5.789	7.087
	OCBBF2036743	11.053	0.000
	OCBBF2038317	19.713	0.000
	OCBBF3000296	0.000	19.328
10	OCBBF3000483	11.973	8.143
	OCBBF3008230	29.840	0.000
	PEBLM2004666	3.715	0.000
	PLACE6001185	21.358	0.000
	PUAEN2005930	18.362	9.367
15	PUAEN2006701	2.249	2.295
	PUAEN2007044	8.600	0.000
	PUAEN2009655	18.275	7.458
	SPLEN2010912	0.000	12.636
	SPLEN2012624	0.000	10.317
20	SPLEN2028914	2.792	0.000
	SPLEN2031424	15.229	0.000
	SPLEN2031547	1.574	11.244
	SPLEN2034781	27.984	0.000
	SPLEN2036932	2.932	5.982
25	SYNOV2014400	12.977	13.240
	SYNOV4002346	5.997	0.000
	SYNOV4002883	23.940	24.425
	SYNOV4007430	31.677	0.000
	SYNOV4008440	1.475	3.010
30	TESOP2002451	2.375	0.000
	TESTI2049246	0.000	53.653
	TESTI4000014	1.964	2.551
	TESTI4000209	2.649	0.000
	TESTI4001100	4.098	4.180
35	TESTI4006137	25.755	0.000
	TESTI4008797	12.429	12.681

	TESTI4009286	1.450	1.479
	TESTI4010377	0.000	60.949
	TESTI4010851	3.280	3.904
	TESTI4010928	0.000	34.221
5	TESTI4011161	0.000	21.496
	TESTI4013817	27.163	27.712
	TESTI4014159	0.000	23.916
	TESTI4014694	2.229	0.000
	TESTI4014818	0.000	60.949
10	TESTI4021478	22.098	0.000
	TESTI4022936	26.445	0.000
	TESTI4024420	37.398	38.155
	TESTI4027821	60.471	0.000
	TESTI4037156	0.000	0.282
15	THYMU2001090	21.252	0.000
	THYMU2023967	0.000	31.165
	THYMU2025707	0.000	9.440
	THYMU2031341	0.000	7.040
	THYMU2033308	13.964	0.000
20	THYMU2035735	1.319	2.692
	THYMU2037226	0.000	34.964
	THYMU2039315	54.530	0.000
	THYMU3001234	11.085	0.000
	THYMU3001379	0.000	25.695
25	THYMU3004835	0.000	20.041
	THYMU3007137	0.000	37.956
	THYMU3008171	20.170	20.579
	TKIDN2009641	5.782	0.000
	TKIDN2009889	35.077	0.000
30	TKIDN2015788	5.261	2.684
	TRACH1000205	19.677	4.015
	TRACH2001549	8.457	21.569
	TRACH2005811	2.109	2.152
	TRACH2006049	47.167	0.000
35	TRACH2007834	0.504	0.515
	TRACH2008300	10.186	13.857

	TRACH2025535	5. 806	2. 369
	TRACH3000014	0. 000	18. 547
	TRACH3001427	5. 571	2. 842
	TRACH3002192	4. 989	6. 999
5	TRACH3004721	8. 721	2. 966
	TRACH3005294	7. 428	0. 000
	TRACH3007479	1. 075	0. 000
	TRACH3008093	2. 449	0. 000
	TRACH3009455	47. 167	0. 000
10	TUTER1000122	0. 000	3. 330
	TUTER2000904	0. 000	5. 697
	UTERU2004929	0. 000	11. 843
	UTERU2006115	7. 837	0. 000
	UTERU2019706	45. 606	0. 000
15	UTERU2021163	0. 000	46. 104
	UTERU2023039	45. 606	0. 000
	UTERU2026203	45. 606	0. 000
	UTERU2030213	0. 000	25. 133
	UTERU3001572	0. 000	1. 862
20	UTERU3003135	0. 000	33. 486
	UTERU3005230	24. 419	0. 000
	UTERU3007640	45. 606	0. 000
	UTERU3009259	0. 000	46. 104
	UTERU3009871	36. 230	18. 482
25	ADRGL2000042	2. 540	0. 000
	BLADE2006830	1. 681	0. 000
	BRACE2003609	9. 090	0. 000
	BRAMY3004800	38. 061	46. 598
	BRAWH1000369	100. 000	0. 000
30	BRAWH2006207	12. 943	0. 000
	BRAWH2006395	12. 446	0. 000
	BRAWH2008993	49. 811	0. 000
	BRAWH2009393	100. 000	0. 000
	BRAWH2010552	58. 488	0. 000
35	BRAWH3007441	100. 000	0. 000
	BRAWH3009017	100. 000	0. 000

	BRHIP2002722	0.000	100.000
	BRHIP2003272	0.000	100.000
	BRHIP2005271	7.083	14.453
	BRHIP2005724	0.000	100.000
5	BRHIP2006617	0.000	100.000
	BRHIP2008389	0.000	100.000
	BRHIP2012360	0.000	100.000
	BRHIP2017553	0.000	100.000
	BRHIP2026877	0.000	30.781
10	BRHIP3000017	8.819	4.499
	BRHIP3000240	0.000	32.393
	BRHIP3008314	0.000	100.000
	BRHIP3026052	0.000	45.860
	BRTHA2018443	22.098	0.000
15	BRTHA3003000	17.150	0.000
	CTONG2020374	31.081	0.000
	CTONG2020378	16.140	16.467
	CTONG2024031	2.584	0.000
	CTONG3004726	0.000	17.278
20	FCBBF1000509	3.732	5.711
	FEBRA2001990	18.144	7.404
	FEBRA2006519	11.891	0.000
	FEBRA2028516	8.007	4.668
	HCHON2000743	6.105	0.000
25	IMR322001879	9.638	9.833
	NT2RI2009583	0.224	0.228
	OCBBF2006987	0.000	13.187
	OCBBF2008144	5.768	2.942
	OCBBF2030116	0.000	45.093
30	PERIC2007068	3.086	4.723
	PUAEN2006335	12.682	0.000
	SPLEN2039379	5.792	8.864
	TESTI2015626	0.000	0.336
	TESTI4000214	0.000	7.979
35	TESTI4001984	60.471	0.000
	TESTI4008058	8.814	0.000

	TESTI4013894	0.000	14.289
	TESTI4025268	60.471	0.000
	TESTI4025547	0.000	60.949
	TESTI4026207	0.000	60.949
5	TESTI4032090	60.471	0.000
	THYMU3000360	39.314	0.000
	TLIVE2002046	5.445	1.852
	TRACH3000134	36.165	0.000
	UTERU2008040	0.000	24.014
10	UTERU2021820	24.929	0.000
	UTERU2028734	21.953	0.000

The result of comparative analysis of cDNA libraries derived from the cerebellum (BRACE), and from whole tissues of a normal brain (BRAWH) showed following genes whose expression levels differed between the two.

Table 7

	Clone ID	BRAWH	BRACE
	ADRG2009146	0.000	10.913
	ADRG2012038	0.000	1.459
	ASTR01000009	2.611	0.000
25	ASTR02003960	0.000	17.003
	BLADE1000176	0.000	16.822
	BLADE2004089	0.000	7.034
	BLADE2008398	12.401	4.401
	BRACE1000186	4.324	1.535
30	BRACE1000258	31.956	68.044
	BRACE1000533	11.795	11.720
	BRACE1000572	0.000	100.000
	BRACE2003639	0.000	100.000
	BRACE2005457	58.488	41.512
35	BRACE2006319	0.000	4.977
	BRACE2008594	0.000	100.000

	BRACE2010489	63.510	15.026
	BRACE2011747	0.000	100.000
	BRACE2014306	0.000	6.909
	BRACE2014475	0.000	100.000
5	BRACE2014657	15.451	76.765
	BRACE2015058	0.000	6.224
	BRACE2015314	0.000	100.000
	BRACE2016981	0.000	16.089
	BRACE2018762	0.000	41.027
10	BRACE2024627	0.000	8.689
	BRACE2026836	0.000	4.898
	BRACE2027258	0.000	23.981
	BRACE2027970	0.000	45.981
	BRACE2028970	0.000	100.000
15	BRACE2029112	0.000	100.000
	BRACE2029849	0.000	100.000
	BRACE2030326	0.000	100.000
	BRACE2030341	0.000	4.909
	BRACE2030884	0.000	100.000
20	BRACE2031154	0.000	39.025
	BRACE2031389	0.000	7.220
	BRACE2031527	0.000	100.000
	BRACE2031531	0.000	100.000
	BRACE2031899	0.000	100.000
25	BRACE2032044	0.000	100.000
	BRACE2032329	0.000	100.000
	BRACE2032385	0.000	100.000
	BRACE2032538	0.000	100.000
	BRACE2032823	0.000	100.000
30	BRACE2033720	0.000	100.000
	BRACE2035381	10.177	36.117
	BRACE2035441	0.000	100.000
	BRACE2036005	0.000	100.000
	BRACE2036096	0.000	100.000
35	BRACE2036830	0.000	100.000
	BRACE2036834	0.000	100.000

	BRACE2037847	0.000	100.000
	BRACE2038114	0.000	100.000
	BRACE2038329	0.000	100.000
	BRACE2038551	0.000	100.000
5	BRACE2039249	0.000	100.000
	BRACE2039327	0.000	100.000
	BRACE2039475	0.000	100.000
	BRACE2039734	0.000	100.000
	BRACE2040138	0.000	100.000
10	BRACE2040325	0.000	100.000
	BRACE2041009	0.000	100.000
	BRACE2041200	0.000	38.787
	BRACE2041264	0.000	100.000
	BRACE2042550	0.000	100.000
15	BRACE2043142	0.000	52.057
	BRACE2043248	0.000	100.000
	BRACE2043349	0.000	100.000
	BRACE2043665	0.000	16.915
	BRACE2044286	18.667	26.499
20	BRACE2044816	0.000	100.000
	BRACE2044949	0.000	2.766
	BRACE2045300	0.000	100.000
	BRACE2045428	0.000	100.000
	BRACE2045596	0.000	100.000
25	BRACE2045772	0.000	2.055
	BRACE2045947	0.000	100.000
	BRACE2045954	27.309	38.766
	BRACE2046251	0.000	100.000
	BRACE2046295	0.000	100.000
30	BRACE2047011	0.000	100.000
	BRACE2047350	0.000	45.981
	BRACE2047377	0.000	100.000
	BRACE20473°5	0.000	100.000
	BRACE3000071	0.000	9.532
35	BRACE3000697	0.000	100.000
	BRACE3000787	32.844	15.541

	BRACE3000840	0.000	100.000
	BRACE3000973	0.000	28.699
	BRACE3001002	0.000	100.000
	BRACE3001217	0.000	100.000
5	BRACE3001391	0.000	100.000
	BRACE3001595	0.000	100.000
	BRACE3001754	0.000	38.787
	BRACE3002298	0.000	100.000
	BRACE3002390	0.000	100.000
10	BRACE3002508	0.000	100.000
	BRACE3003004	0.000	100.000
	BRACE3003192	58.488	41.512
	BRACE3003595	0.000	100.000
	BRACE3003698	0.000	45.981
15	BRACE3004058	0.000	100.000
	BRACE3004113	0.000	100.000
	BRACE3004150	0.000	2.757
	BRACE3004358	0.000	100.000
	BRACE3004435	0.000	100.000
20	BRACE3004772	0.000	100.000
	BRACE3004783	0.000	100.000
	BRACE3004843	0.000	22.581
	BRACE3004880	0.000	100.000
	BRACE3005145	0.000	100.000
25	BRACE3005225	0.000	100.000
	BRACE3005430	0.000	100.000
	BRACE3005499	31.276	22.199
	BRACE3006185	0.000	100.000
	BRACE3006226	0.000	100.000
30	BRACE3006462	0.000	100.000
	BRACE3006872	0.000	100.000
	BRACE3007322	0.000	100.000
	BRACE3007472	0.000	100.000
	BRACE3007480	19.471	13.820
35	BRACE3007559	0.000	100.000
	BRACE3007625	0.000	100.000

	BRACE3007642	0.000	100.000
	BRACE3007767	0.000	100.000
	BRACE3008036	0.000	13.098
	BRACE3008092	0.000	100.000
5	BRACE3008137	0.000	100.000
	BRACE3008384	0.000	56.141
	BRACE3008720	0.000	100.000
	BRACE3008772	0.000	37.308
	BRACE3009090	0.000	100.000
10	BRACE3009237	18.139	12.875
	BRACE3009297	0.000	100.000
	BRACE3009377	0.000	100.000
	BRACE3009574	0.000	100.000
	BRACE3009701	0.000	100.000
15	BRACE3009708	0.000	100.000
	BRACE3009724	58.488	41.512
	BRACE3009747	2.237	1.588
	BRACE3010397	0.000	24.243
	BRACE3010428	6.868	3.250
20	BRACE3011271	11.036	39.165
	BRACE3011421	28.251	40.103
	BRACE3011505	0.000	100.000
	BRACE3012364	8.506	6.038
	BRACE3012930	0.000	38.787
25	BRACE3013119	0.000	100.000
	BRACE3013576	0.000	100.000
	BRACE3013740	0.000	100.000
	BRACE3013780	0.000	3.404
	BRACE3014005	0.000	100.000
30	BRACE3014068	0.000	100.000
	BRACE3014231	0.000	100.000
	BRACE3014317	0.000	100.000
	BRACE3014807	0.000	100.000
	BRACE3015027	0.000	9.209
35	BRACE3015121	0.000	100.000
	BRACE3015262	0.000	100.000

	BRACE3015521	0.000	100.000
	BRACE3015894	0.000	100.000
	BRACE3016884	0.000	9.165
	BRACE3018308	0.000	100.000
5	BRACE3018963	0.000	41.027
	BRACE3019055	0.000	100.000
	BRACE3019084	0.000	100.000
	BRACE3020194	0.000	100.000
	BRACE3020286	0.000	100.000
10	BRACE3020594	0.000	100.000
	BRACE3022769	4.285	9.124
	BRACE3023912	0.000	100.000
	BRACE3024073	0.000	100.000
	BRACE3024659	0.000	100.000
15	BRACE3024662	0.000	100.000
	BRACE3025153	0.000	100.000
	BRACE3025457	0.000	100.000
	BRACE3025531	0.000	100.000
	BRACE3025630	0.000	100.000
20	BRACE3026008	0.000	100.000
	BRACE3026075	0.000	100.000
	BRACE3026735	24.173	51.471
	BRACE3027242	0.000	100.000
	BRACE3027326	0.000	100.000
25	BRACE3027478	0.000	11.360
	BRACE3030103	0.000	100.000
	BRACE3031838	58.488	41.512
	BRACE3032983	0.000	100.000
	BRACE3040856	0.000	100.000
30	BRACE3045033	0.000	100.000
	BRALZ2011796	5.511	3.912
	BRAMY2003008	26.445	0.000
	BRAMY2005052	11.612	8.242
	BRAMY2019300	49.811	0.000
35	BRAMY2019963	20.428	0.000
	BRAMY2020058	0.000	19.826

	BRAMY2030098	0.000	29.935
	BRAMY2031317	0.000	33.400
	BRAMY2036567	7.474	26.525
	BRAMY2037823	29.664	21.055
5	BRAMY2039872	0.000	14.071
	BRAMY2040592	3.482	0.000
	BRAMY2044078	0.000	6.224
	BRAMY2047420	0.000	0.719
	BRAMY3002620	0.000	41.329
10	BRAMY3002803	14.428	0.000
	BRAMY3004224	33.027	0.000
	BRAMY3005091	19.193	13.622
	BRAMY3005932	0.000	41.329
	BRAMY4000229	0.000	25.113
15	BRAWH1000127	15.983	4.538
	BRAWH2001395	14.290	3.580
	BRAWH2001671	7.605	8.097
	BRAWH2001940	37.398	0.000
	BRAWH2001973	37.398	0.000
20	BRAWH2002560	6.454	0.000
	BRAWH2002761	100.000	0.000
	BRAWH2005315	100.000	0.000
	BRAWH2007658	58.101	0.000
	BRAWH2010000	18.745	0.000
25	BRAWH2010084	100.000	0.000
	BRAWH2010536	14.718	0.000
	BRAWH2012162	36.060	0.000
	BRAWH2012326	100.000	0.000
	BRAWH2013294	39.442	13.997
30	BRAWH2013871	37.485	0.000
	BRAWH2014414	17.865	0.000
	BRAWH2014645	4.228	3.751
	BRAWH2014662	15.521	11.016
	BRAWH2014876	10.473	7.433
35	BRAWH2014954	58.488	41.512
	BRAWH2016221	47.417	0.000

	BRAWH2016439	100.000	0.000
	BRAWH2016702	73.807	26.193
	BRAWH2016724	35.119	0.000
	BRAWH3000078	100.000	0.000
5	BRAWH3000100	100.000	0.000
	BRAWH3000314	71.553	0.000
	BRAWH3000491	100.000	0.000
	BRAWH3001326	45.606	0.000
	BRAWH3001475	100.000	0.000
10	BRAWH3001891	34.539	36.772
	BRAWH3002574	13.222	0.000
	BRAWH3002600	36.800	26.120
	BRAWH3002819	100.000	0.000
	BRAWH3002821	21.953	0.000
15	BRAWH3003522	100.000	0.000
	BRAWH3003555	15.229	5.405
	BRAWH3003727	10.055	21.411
	BRAWH3003801	100.000	0.000
	BRAWH3003992	29.008	0.000
20	BRAWH3004453	100.000	0.000
	BRAWH3004666	49.499	0.000
	BRAWH3005132	49.811	0.000
	BRAWH3005422	100.000	0.000
	BRAWH3005912	100.000	0.000
25	BRAWH3005981	29.324	0.000
	BRAWH3006548	71.018	0.000
	BRAWH3006792	49.499	0.000
	BRAWH3007221	100.000	0.000
	BRAWH3007506	100.000	0.000
30	BRAWH3007592	8.966	6.364
	BRAWH3007726	54.530	0.000
	BRAWH3007783	100.000	0.000
	BRAWH3008341	100.000	0.000
	BRAWH3008697	100.000	0.000
35	BRAWH3008931	3.463	4.916
	BRAWH3009297	58.488	41.512

	BRCAN2009432	0.000	1.869
	BRCAN2010376	0.000	23.627
	BRCAN2015371	0.000	15.560
	BRCAN2020710	0.000	7.714
5	BRCOC2003213	10.381	7.368
	BRCOC2007034	0.000	16.691
	BRCOC2014033	15.633	0.000
	BRCOC2020142	22.014	0.000
	BRHIP2000920	36.630	25.999
10	BRHIP2004359	0.000	34.560
	BRHIP2005719	49.499	0.000
	BRHIP2005752	0.000	41.027
	BRHIP2007741	6.943	3.696
	BRHIP2013699	0.000	15.145
15	BRHIP2014228	29.439	10.447
	BRHIP2024146	3.042	0.864
	BRHIP3000339	14.290	3.580
	BRHIP3006683	24.100	0.000
	BRHIP3007586	17.255	7.348
20	BRHIP3008313	0.000	20.257
	BRHIP3008405	35.187	12.487
	BRHIP3018797	30.810	3.803
	BRSSN2000684	23.433	0.000
	BRSSN2006892	0.000	10.990
25	BRSSN2011262	0.000	2.000
	BRSSN2011738	31.553	7.465
	BRSSN2014299	3.695	2.623
	BRSTN2008052	32.844	15.541
	BRSTN2010750	0.000	7.220
30	BRSTN2015015	14.017	19.897
	BRSTN2016470	0.438	7.146
	BRTHA1000311	11.803	10.472
	BRTHA2008335	16.281	0.000
	BRTHA2008955	0.000	39.025
35	BRTHA2011194	0.000	39.025
	BRTHA3001721	0.000	8.360

	BRTHA3002427	8.577	2.029
	BRTHA3003490	1.623	2.304
	BRTHA3008520	47.417	0.000
	BRTHA3009090	0.000	8.354
5	BRTHA3017848	47.417	0.000
	COLON2001721	11.065	19.633
	CTONG2008233	0.000	3.412
	CTONG2017500	2.649	0.000
	CTONG2028124	0.503	2.854
10	CTONG3000657	3.880	5.508
	CTONG3001123	7.847	0.000
	CTONG3005813	0.000	27.592
	CTONG3008894	0.000	1.032
	CTONG3009328	11.993	0.000
15	DFNES2011499	0.000	4.403
	FCBBF2001183	16.537	5.869
	FCBBF3001977	7.448	10.573
	FEBRA2006396	0.000	5.705
	FEBRA2007544	14.689	41.703
20	FEBRA2007708	0.000	6.066
	FEBRA2007801	4.937	1.752
	FEBRA2008287	0.000	4.184
	FEBRA2020886	12.124	0.000
	FEBRA2021966	0.000	3.062
25	FEBRA2026984	0.000	12.446
	FEBRA2028618	5.082	10.821
	HCASM2007047	3.431	0.000
	HCHON2000244	0.658	0.934
	HCHON2000626	2.351	0.834
30	HCHON2001217	3.123	2.216
	HCHON2002676	13.647	0.000
	HCHON2005921	0.000	2.944
	HCHON2006250	1.565	0.000
	HEART1000074	0.759	1.078
35	HHDPC1000118	2.096	0.000
	HLUNG2002465	1.209	0.000

	IMR322000127	3.098	4.398
	IMR322001380	0.000	2.814
	IMR322002035	36.176	0.000
	KIDNE2000665	0.000	1.374
5	KIDNE2006580	7.013	14.933
	MESAN2006563	0.691	1.470
	MESAN2012054	12.754	5.432
	MESTC1000042	2.245	0.797
	NB9N41000340	0.000	2.059
10	NESOP2001752	0.000	3.228
	NOVAR2001783	4.027	0.000
	NT2NE2006909	0.285	0.000
	NT2RI2005166	0.000	18.511
	NT2RI2008724	1.836	0.000
15	NT2RI2012659	13.562	48.128
	NT2RI2014733	24.938	0.000
	NT2RI2019751	0.000	28.087
	NT2RI3002892	8.799	9.992
	NT2RI3003382	0.000	28.087
20	NT2RI3004510	0.000	20.009
	NT2RI3005724	0.000	42.065
	NT2RI3006284	4.138	1.469
	NT2RI3006673	19.959	0.000
	NT2RI3007291	0.000	35.535
25	NT2RI3007543	1.697	1.204
	NT2RI3008055	44.179	15.678
	NT2RP7004123	0.000	1.362
	NT2RP7005529	14.766	5.240
	NT2RP7009147	14.337	0.000
30	NT2RP7010599	0.000	22.750
	NT2RP7014005	5.818	0.000
	NT2RP7017474	18.823	13.360
	NTONG2005969	0.000	4.560
	OCBBF2001794	4.728	0.000
35	OCBBF2003819	0.000	14.955
	OCBBF2006005	9.535	0.000

	OCBBF2006151	0.000	4.092
	OCBBF2006764	15.345	21.782
	OCBBF2007028	9.665	8.820
	OCBBF2010140	32.508	0.000
5	OCBBF2020343	0.000	36.360
	OCBBF2020741	0.000	20.028
	OCBBF2021286	18.456	6.550
	OCBBF2022351	0.000	36.360
	OCBBF2024850	4.445	1.577
10	OCBBF2025527	0.000	36.360
	OCBBF2028935	5.789	1.643
	OCBBF2036743	11.053	15.690
	OCBBF2038317	19.713	0.000
	OCBBF3000483	11.973	14.163
15	OCBBF3007516	0.000	2.684
	OCBBF3008230	29.840	0.000
	PEBLM2004666	3.715	0.000
	PERIG2000889	0.000	6.314
	PLACE6001185	21.358	15.159
20	PUAEN2002489	0.000	9.262
	PUAEN2005930	18.362	0.000
	PUAEN2006701	2.249	0.000
	PUAEN2007044	8.600	5.087
	PUAEN2009655	18.275	0.000
25	SPLEN2010912	0.000	26.371
	SPLEN2012624	0.000	7.178
	SPLEN2027268	0.000	14.361
	SPLEN2028914	2.792	0.000
	SPLEN2031424	15.229	5.405
30	SPLEN2031547	1.574	5.587
	SPLEN2034781	27.984	0.000
	SPLEN2036932	2.932	2.081
	SPLEN2037194	0.000	28.977
	SYNOV2014400	12.977	0.000
35	SYNOV4002346	5.997	0.000
	SYNOV4002883	23.940	0.000

	SYNOV4007430	31.677	0.000
	SYNOV4007671	0.000	0.520
	SYNOV4008440	1.475	2.094
	TESOP2002273	0.000	2.881
5	TESOP2002451	2.375	3.372
	TESOP2002950	0.000	9.399
	TESTI1000330	0.000	52.057
	TESTI4000014	1.964	2.028
	TESTI4000209	2.649	0.000
10	TESTI4000349	0.000	36.899
	TESTI4001100	4.098	8.725
	TESTI4001561	0.000	28.578
	TESTI4006137	25.755	0.000
	TESTI4008797	12.429	0.000
15	TESTI4009286	1.450	0.000
	TESTI4010851	3.280	2.716
	TESTI4011161	0.000	14.955
	TESTI4013675	0.000	14.015
	TESTI4013817	27.163	0.000
20	TESTI4014159	0.000	16.638
	TESTI4014306	0.000	52.057
	TESTI4014694	2.229	0.791
	TESTI4021478	22.098	0.000
	TESTI4022936	26.445	0.000
25	TESTI4024420	37.398	0.000
	TESTI4027821	60.471	0.000
	TESTI4037156	0.000	0.982
	TESTI4046819	0.000	14.013
	THYMU2001090	21.252	0.000
30	THYMU2016523	0.000	23.416
	THYMU2023967	0.000	43.363
	THYMU2030264	0.000	45.981
	THYMU2033308	13.964	0.000
	THYMU2035735	1.319	0.936
35	THYMU2039315	54.530	0.000
	THYMU2039780	0.000	45.981

	THYMU3001083	0.000	45.981
	THYMU3001234	11.085	7.868
	THYMU3003309	0.000	20.635
	THYMU3006485	0.000	45.981
5	THYMU3008171	20.170	14.316
	TKIDN2009641	5.782	4.104
	TKIDN2009889	35.077	0.000
	TKIDN2015788	5.261	0.000
	TRACH1000205	19.677	8.380
10	TRACH2001549	8.457	0.000
	TRACH2005811	2.109	0.000
	TRACH2006049	47.167	0.000
	TRACH2007834	0.504	0.000
	TRACH2008300	10.186	3.615
15	TRACH2025535	5.806	2.472
	TRACH3001427	5.571	3.295
	TRACH3002192	4.989	3.541
	TRACH3004721	8.721	4.127
	TRACH3005294	7.428	0.000
20	TRACH3006038	0.000	38.787
	TRACH3006412	0.000	38.787
	TRACH3007479	1.075	0.000
	TRACH3008093	2.449	3.477
	TRACH3009455	47.167	0.000
25	TUTER2000904	0.000	5.944
	UTERU2002410	0.000	0.417
	UTERU2006115	7.837	5.563
	UTERU2007520	0.000	4.761
	UTERU2019706	45.606	0.000
30	UTERU2023039	45.606	0.000
	UTERU2026203	45.606	0.000
	UTERU3000226	0.000	37.308
	UTERU3001572	0.000	2.591
	UTERU3005230	24.419	17.332
35	UTERU3005460	0.000	37.308
	UTERU3005970	0.000	37.308

	UTERU3006308	0.000	37.308
	UTERU3007419	0.000	37.308
	UTERU3007640	45.606	0.000
	UTERU3007913	0.000	12.951
5	UTERU3009871	36.230	0.000
	ADRGL2000042	2.540	7.210
	BLADE2006830	1.681	2.386
	BRACE2002589	0.000	100.000
	BRACE2003609	9.090	6.452
10	BRACE2009318	0.000	100.000
	BRACE2011677	0.000	100.000
	BRACE2029396	0.000	100.000
	BRACE2037299	0.000	100.000
	BRACE2039823	0.000	41.329
15	BRACE2039832	0.000	100.000
	BRACE2043105	0.000	100.000
	BRACE3001058	0.000	100.000
	BRACE3001113	0.000	18.680
	BRACE3003026	0.000	11.590
20	BRACE3003053	0.000	36.360
	BRACE3009127	0.000	100.000
	BRACE3010076	0.000	100.000
	BRACE3015829	0.000	100.000
	BRACE3021148	0.000	100.000
25	BRAMY3004800	38.061	0.000
	BRAWH1000369	100.000	0.000
	BRAWH2006207	12.943	9.187
	BRAWH2006395	12.446	0.000
	BRAWH2008993	49.811	0.000
30	BRAWH2009393	100.000	0.000
	BRAWH2010552	58.488	41.512
	BRAWH3007441	100.000	0.000
	BRAWH3009017	100.000	0.000
	BRCOC2019841	0.000	16.691
35	BRHIP2005271	7.083	0.000
	BRHIP3000017	8.819	0.000

	BRHIP3000240	0.000	67.607
	BRTHA2018443	22.098	0.000
	BRTHA3003000	17.150	0.000
	CTONG2020374	31.081	11.030
5	CTONG2020378	16.140	0.000
	CTONG2024031	2.584	3.669
	FCBBF1000509	3.732	0.000
	FEBRA2001990	18.144	15.453
	FEBRA2006519	11.891	25.320
10	FEBRA2028516	8.007	1.624
	HCHON2000743	6.105	8.667
	IMR322001879	9.638	0.000
	NT2RI2009583	0.224	5.399
	NT2RP8000521	0.000	37.067
15	OCBBF2008144	5.768	4.094
	OCBBF2011669	0.000	36.360
	PERIG2007068	3.086	8.761
	PUAEN2006335	12.682	0.000
	SPLEN2039379	5.792	10.278
20	SYNOV2021953	0.000	6.793
	TESTI2015626	0.000	0.467
	TESTI4001984	60.471	0.000
	TESTI4008058	8.814	0.000
	TESTI4013894	0.000	19.881
25	TESTI4025268	60.471	0.000
	TESTI4032090	60.471	0.000
	THYMU2004284	0.000	4.768
	THYMU2040925	0.000	45.981
	THYMU3000360	39.314	27.904
30	TLIVE2002046	5.445	7.729
	TRACH3000134	36.165	0.000
	UTERU2008040	0.000	8.353
	UTERU2011220	0.000	1.389
	UTERU2021820	24.929	17.694
35	UTERU2028734	21.953	0.000

The result of comparative analysis of cDNA libraries derived from the thalamus (BRTHA), and from whole tissues of a normal brain (BRAWH) showed following genes whose expression levels differed between the two.

5

Table 8

	Clone ID	BRAWH	BRTHA
10	ASTR01000009	2.611	0.000
	ASTR03000482	0.000	24.247
	BLADE2008398	12.401	13.752
	BRACE1000186	4.324	0.000
	BRACE1000258	31.956	0.000
15	BRACE1000533	11.795	5.232
	BRACE2005457	58.488	0.000
	BRACE2010489	63.510	0.000
	BRACE2014306	0.000	5.398
	BRACE2014657	15.451	0.000
20	BRACE2015058	0.000	19.449
	BRACE2031154	0.000	60.975
	BRACE2035381	10.177	11.286
	BRACE2044286	18.667	0.000
	BRACE2045954	27.309	0.000
25	BRACE3000787	32.844	12.141
	BRACE3003192	58.488	0.000
	BRACE3005499	31.276	0.000
	BRACE3007480	19.471	7.197
	BRACE3008384	0.000	43.859
30	BRACE3009237	18.139	20.116
	BRACE3009724	58.488	0.000
	BRACE3009747	2.237	2.481
	BRACE3010397	0.000	75.757
	BRACE3010428	6.868	2.539
35	BRACE3011271	11.036	0.000
	BRACE3011421	28.251	0.000

	BRACE3012364	8. 506	9. 433
	BRACE3022769	4. 285	4. 752
	BRACE3026735	24. 173	0. 000
	BRACE3027478	0. 000	35. 497
5	BRACE3031838	58. 488	0. 000
	BRALZ2011796	5. 511	6. 112
	BRAMY2003008	26. 445	0. 000
	BRAMY2005052	11. 612	25. 755
	BRAMY2019300	49. 811	0. 000
10	BRAMY2019963	20. 428	7. 551
	BRAMY2028914	0. 000	19. 645
	BRAMY2031317	0. 000	34. 791
	BRAMY2036567	7. 474	0. 000
	BRAMY2037823	29. 664	0. 000
15	BRAMY2040592	3. 482	0. 000
	BRAMY2044078	0. 000	19. 449
	BRAMY3002803	14. 428	0. 000
	BRAMY3004224	33. 027	0. 000
	BRAMY3005091	19. 193	0. 000
20	BRAMY4000229	0. 000	39. 237
	BRAWH1000127	15. 983	7. 090
	BRAWH2001395	14. 290	11. 652
	BRAWH2001671	7. 605	12. 650
	BRAWH2001940	37. 398	0. 000
25	BRAWH2001973	37. 398	0. 000
	BRAWH2002560	6. 454	0. 000
	BRAWH2002761	100. 000	0. 000
	BRAWH2005315	100. 000	0. 000
	BRAWH2007658	58. 101	0. 000
30	BRAWH2010000	18. 745	0. 000
	BRAWH2010084	100. 000	0. 000
	BRAWH2010536	14. 718	0. 000
	BRAWH2012162	36. 060	0. 000
	BRAWH2012326	100. 000	0. 000
35	BRAWH2013294	39. 442	0. 000
	BRAWH2013871	37. 485	0. 000

	BRAWH2014414	17. 865	9. 906
	BRAWH2014645	4. 228	1. 172
	BRAWH2014662	15. 521	17. 212
	BRAWH2014876	10. 473	58. 068
5	BRAWH2014954	58. 488	0. 000
	BRAWH2016221	47. 417	52. 583
	BRAWH2016439	100. 000	0. 000
	BRAWH2016702	73. 807	0. 000
	BRAWH2016724	35. 119	0. 000
10	BRAWH3000078	100. 000	0. 000
	BRAWH3000100	100. 000	0. 000
	BRAWH3000314	71. 553	0. 000
	BRAWH3000491	100. 000	0. 000
	BRAWH3001326	45. 606	0. 000
15	BRAWH3001475	100. 000	0. 000
	BRAWH3001891	34. 539	0. 000
	BRAWH3002574	13. 222	0. 000
	BRAWH3002600	36. 800	0. 000
	BRAWH3002819	100. 000	0. 000
20	BRAWH3002821	21. 953	0. 000
	BRAWH3003522	100. 000	0. 000
	BRAWH3003555	15. 229	8. 444
	BRAWH3003727	10. 055	0. 000
	BRAWH3003801	100. 000	0. 000
25	BRAWH3003992	29. 008	0. 000
	BRAWH3004453	100. 000	0. 000
	BRAWH3004666	49. 499	0. 000
	BRAWH3005132	49. 811	0. 000
	BRAWH3005422	100. 000	0. 000
30	BRAWH3005912	100. 000	0. 000
	BRAWH3005981	29. 324	0. 000
	BRAWH3006548	71. 018	0. 000
	BRAWH3006792	49. 499	0. 000
	BRAWH3007221	100. 000	0. 000
35	BRAWH3007506	100. 000	0. 000
	BRAWH3007592	8. 966	0. 000

	BRAWH3007726	54.530	0.000
	BRAWH3007783	100.000	0.000
	BRAWH3008341	100.000	0.000
	BRAWH3008697	100.000	0.000
5	BRAWH3008931	3.463	0.000
	BRAWH3009297	58.488	0.000
	BRCAN2006297	0.000	15.966
	BRCOC2003213	10.381	0.000
	BRCOC2014033	15.633	0.000
10	BRCOC2020142	22.014	0.000
	BRHIP2000819	0.000	4.791
	BRHIP2000920	36.630	0.000
	BRHIP2005719	49.499	0.000
	BRHIP2007741	6.943	5.775
15	BRHIP2009474	0.000	52.083
	BRHIP2013699	0.000	23.663
	BRHIP2014228	29.439	0.000
	BRHIP2022221	0.000	52.083
	BRHIP2024146	3.042	7.759
20	BRHIP3000339	14.290	11.652
	BRHIP3006683	24.100	26.726
	BRHIP3007586	17.255	11.481
	BRHIP3008405	35.187	0.000
	BRHIP3018797	30.810	10.399
25	BRSSN2000684	23.433	10.395
	BRSSN2008549	0.000	18.953
	BRSSN2008797	0.000	22.955
	BRSSN2011738	31.553	0.000
	BRSSN2014299	3.695	0.000
30	BRSTN2004863	0.000	11.049
	BRSTN2008052	32.844	12.141
	BRSTN2015015	14.017	15.544
	BRSTN2016470	0.438	0.000
	BRTHA1000311	11.803	9.817
35	BRTHA2000855	0.000	100.000
	BRTHA2001462	0.000	100.000

	BRTHA2002115	0.000	100.000
	BRTHA2002281	0.000	100.000
	BRTHA2002376	0.000	100.000
	BRTHA2002442	0.000	68.493
5	BRTHA2002493	0.000	100.000
	BRTHA2002608	0.000	100.000
	BRTHA2002808	0.000	12.857
	BRTHA2003030	0.000	100.000
	BRTHA2003110	0.000	100.000
10	BRTHA2003116	0.000	100.000
	BRTHA2003461	0.000	2.434
	BRTHA2004821	0.000	100.000
	BRTHA2004978	0.000	100.000
	BRTHA2005579	0.000	100.000
15	BRTHA2005956	0.000	100.000
	BRTHA2006075	0.000	100.000
	BRTHA2006146	0.000	100.000
	BRTHA2006194	0.000	100.000
	BRTHA2007122	0.000	100.000
20	BRTHA2007422	0.000	100.000
	BRTHA2007603	0.000	100.000
	BRTHA2008316	0.000	100.000
	BRTHA2008335	16.281	9.028
	BRTHA2008527	0.000	100.000
25	BRTHA2008535	0.000	100.000
	BRTHA2008955	0.000	60.975
	BRTHA2009311	0.000	100.000
	BRTHA2009846	0.000	100.000
	BRTHA2009972	0.000	100.000
30	BRTHA2010073	0.000	100.000
	BRTHA2010608	0.000	48.181
	BRTHA2010884	0.000	100.000
	BRTHA2010907	0.000	100.000
	BRTHA2011194	0.000	60.975
35	BRTHA2011351	0.000	100.000
	BRTHA2011500	0.000	100.000

	BRTHA2011641	0.000	52.395
	BRTHA2012392	0.000	38.390
	BRTHA2012562	0.000	100.000
	BRTHA2012980	0.000	13.890
5	BRTHA2013262	0.000	100.000
	BRTHA2013460	0.000	100.000
	BRTHA2013707	0.000	100.000
	BRTHA2014792	0.000	100.000
	BRTHA2014828	0.000	100.000
10	BRTHA2015406	0.000	100.000
	BRTHA2015478	0.000	100.000
	BRTHA2015696	0.000	100.000
	BRTHA2015878	0.000	100.000
	BRTHA2016215	0.000	38.930
15	BRTHA2016496	0.000	100.000
	BRTHA2016543	0.000	100.000
	BRTHA2017353	0.000	100.000
	BRTHA2017985	0.000	49.749
	BRTHA2018165	0.000	100.000
20	BRTHA2018344	0.000	100.000
	BRTHA2018591	0.000	100.000
	BRTHA2018624	0.000	100.000
	BRTHA2018707	0.000	57.080
	BRTHA2019014	0.000	100.000
25	BRTHA2019022	0.000	100.000
	BRTHA2019048	0.000	100.000
	BRTHA3000273	0.000	57.080
	BRTHA3000297	0.000	52.083
	BRTHA3000633	0.000	37.898
30	BRTHA3001721	0.000	13.062
	BRTHA3002401	0.000	100.000
	BRTHA3002427	8.577	15.852
	BRTHA3002933	0.000	100.000
	BRTHA3003074	0.000	37.459
35	BRTHA3003343	0.000	100.000
	BRTHA3003449	0.000	100.000

	BRTHA3003474	0.000	100.000
	BRTHA3003490	1.623	1.800
	BRTHA3004475	0.000	52.395
	BRTHA3005046	0.000	52.083
5	BRTHA3006856	0.000	100.000
	BRTHA3007113	0.000	100.000
	BRTHA3007148	0.000	100.000
	BRTHA3007319	0.000	100.000
	BRTHA3007769	0.000	100.000
10	BRTHA3008143	0.000	100.000
	BRTHA3008310	0.000	100.000
	BRTHA3008386	0.000	100.000
	BRTHA3008520	47.417	52.583
	BRTHA3008778	0.000	27.551
15	BRTHA3009037	0.000	100.000
	BRTHA3009090	0.000	13.052
	BRTHA3009291	0.000	100.000
	BRTHA3010366	0.000	100.000
	BRTHA3013884	0.000	100.000
20	BRTHA3015815	0.000	100.000
	BRTHA3015910	0.000	33.089
	BRTHA3016845	0.000	100.000
	BRTHA3016917	0.000	100.000
	BRTHA3017047	0.000	100.000
25	BRTHA3017589	0.000	100.000
	BRTHA3017848	47.417	52.583
	BRTHA3018514	0.000	100.000
	BRTHA3018617	0.000	100.000
	BRTHA3018656	0.000	100.000
30	BRTHA3019105	0.000	100.000
	COLON2001721	11.065	0.000
	CTONG1000087	0.000	3.479
	CTONG2008233	0.000	3.046
	CTONG2017500	2.649	2.938
35	CTONG2019788	0.000	3.391
	CTONG2023021	0.000	37.320

	CTONG2028124	0.503	1.672
	CTONG3000657	3.880	8.605
	CTONG3001123	7.847	0.000
	CTONG3008894	0.000	2.418
5	CTONG3009028	0.000	1.785
	CTONG3009239	0.000	1.601
	CTONG3009328	11.993	0.000
	FCBBF2001183	16.537	9.169
	FCBBF3001977	7.448	0.000
10	FCBBF3021576	0.000	19.062
	FEBRA2007544	14.689	2.715
	FEBRA2007801	4.937	5.475
	FEBRA2008287	0.000	6.537
	FEBRA2008360	0.000	11.338
15	FEBRA2020886	12.124	0.000
	FEBRA2028618	5.082	0.000
	HCASM2007047	3.431	0.000
	HCHON2000028	0.000	5.278
	HCHON2000212	0.000	19.062
20	HCHON2000244	0.658	0.000
	HCHON2000626	2.351	1.304
	HCHON2001084	0.000	2.546
	HCHON2001217	3.123	5.771
	HCHON2002676	13.647	0.000
25	HCHON2005921	0.000	9.198
	HCHON2006250	1.565	1.735
	HEART1000074	0.759	0.000
	HEART2007031	0.000	12.601
	HHDPC1000118	2.096	0.000
30	HLUNG2001996	0.000	23.216
	HLUNG2002465	1.209	1.341
	IMR322000127	3.098	0.000
	IMR322001300	0.000	2.198
	IMR322002035	36.176	0.000
35	KIDNE2002252	0.000	2.417
	KIDNE2005543	0.000	19.748

	KIDNE2006580	7.013	7.777
	KIDNE2011314	0.000	24.133
	MESAN2006563	0.691	1.532
	MESAN2012054	12.754	0.000
5	MESTC1000042	2.245	0.000
	NOVAR2001783	4.027	0.000
	NT2NE2006909	0.285	0.000
	NT2RI2008724	1.836	4.073
	NT2RI2012659	13.562	0.000
10	NT2RI2014733	24.938	0.000
	NT2RI3002842	0.000	20.781
	NT2RI3002892	8.799	13.661
	NT2RI3005403	0.000	37.898
	NT2RI3006284	4.138	0.000
15	NT2RI3006673	19.959	0.000
	NT2RI3007543	1.697	0.000
	NT2RI3008055	44.179	0.000
	NT2RP7004123	0.000	2.128
	NT2RP7005529	14.766	0.000
20	NT2RP7009147	14.337	3.533
	NT2RP7014005	5.818	0.000
	NT2RP7017474	18.823	0.000
	NTONG2005969	0.000	3.562
	NTONG2008088	0.000	11.332
25	OCBBF2001794	4.728	0.000
	OCBBF2006005	9.535	21.147
	OCBBF2006764	15.345	0.000
	OCBBF2007028	9.665	18.374
	OCBBF2010140	32.508	0.000
30	OCBBF2020639	0.000	25.048
	OCBBF2021286	18.456	10.233
	OCBBF2024719	0.000	32.892
	OCBBF2024850	4.445	7.393
	OCBBF2028935	5.789	2.568
35	OCBBF2036743	11.053	12.257
	OCBBF2038317	19.713	10.930

	OCBBF3000483	11. 973	0. 000
	OCBBF3008230	29. 840	33. 091
	PEBLM2004666	3. 715	0. 000
	PLACE6001185	21. 358	0. 000
5	PUAEN2002489	0. 000	21. 707
	PUAEN2005930	18. 362	10. 181
	PUAEN2006701	2. 249	0. 000
	PUAEN2007044	8. 600	1. 590
	PUAEN2009655	18. 275	0. 000
10	RECTM2001347	0. 000	4. 600
	SKMUS2000757	0. 000	5. 480
	SPLEN2006122	0. 000	0. 934
	SPLEN2010912	0. 000	13. 734
	SPLEN2025491	0. 000	38. 930
15	SPLEN2028914	2. 792	0. 000
	SPLEN2031424	15. 229	8. 444
	SPLEN2031547	1. 574	1. 746
	SPLEN2032154	0. 000	38. 930
	SPLEN2034781	27. 984	0. 000
20	SPLEN2036821	0. 000	38. 930
	SPLEN2036932	2. 932	0. 000
	SYNOV1000374	0. 000	22. 005
	SYNOV2014400	12. 977	0. 000
	SYNOV4002346	5. 997	0. 000
25	SYNOV4002883	23. 940	0. 000
	SYNOV4007430	31. 677	0. 000
	SYNOV4007671	0. 000	0. 813
	SYNOV4008440	1. 475	3. 272
	TESOP2002451	2. 375	0. 000
30	TESTI2049246	0. 000	29. 159
	TESTI4000014	1. 964	1. 188
	TESTI4000209	2. 649	2. 938
	TESTI4001100	4. 098	4. 544
	TESTI4002290	0. 000	62. 915
35	TESTI4006137	25. 755	28. 561
	TESTI4008797	12. 429	27. 567

	TESTI4009286	1.450	0.804
	TESTI4010851	3.280	3.031
	TESTI4012702	0.000	2.417
	TESTI4013817	27.163	0.000
5	TESTI4014159	0.000	25.996
	TESTI4014694	2.229	0.000
	TESTI4021478	22.098	49.012
	TESTI4022936	26.445	0.000
	TESTI4024420	37.398	0.000
10	TESTI4027821	60.471	0.000
	TESTI4037156	0.000	0.307
	THYMU2001090	21.252	47.135
	THYMU2025707	0.000	20.521
	THYMU2032825	0.000	20.620
15	THYMU2033308	13.964	0.000
	THYMU2033787	0.000	57.080
	THYMU2035735	1.319	0.000
	THYMU2039315	54.530	0.000
	THYMU2040975	0.000	1.948
20	THYMU3001234	11.085	12.293
	THYMU3001379	0.000	27.929
	THYMU3004835	0.000	21.784
	THYMU3008171	20.170	0.000
	TKIDN2009641	5.782	12.823
25	TKIDN2009889	35.077	0.000
	TKIDN2015788	5.261	2.917
	TLIVE2001327	0.000	5.201
	TRACH1000205	19.677	0.000
	TRACH2001549	8.457	4.689
30	TRACH2005811	2.109	3.508
	TRACH2006049	47.167	0.000
	TRACH2007834	0.504	0.559
	TRACH200°300	10.1°6	11.296
	TRACH2023299	0.000	14.157
35	TRACH2025535	5.806	1.288
	TRACH3001427	5.571	1.030

	TRACH3002192	4.989	2.766
	TRACH3004068	0.000	1.581
	TRACH3004721	8.721	3.224
	TRACH3005294	7.428	0.000
5	TRACH3007479	1.075	0.000
	TRACH3008093	2.449	2.716
	TRACH3009455	47.167	0.000
	TSTOM1000135	0.000	9.361
	TUTER2000904	0.000	3.096
10	UTERU2002410	0.000	1.302
	UTERU2006115	7.837	17.383
	UTERU2019706	45.606	0.000
	UTERU2019940	0.000	48.181
	UTERU2023039	45.606	0.000
15	UTERU2023175	0.000	1.651
	UTERU2026203	45.606	0.000
	UTERU2030280	0.000	48.181
	UTERU3000899	0.000	31.292
	UTERU3001571	0.000	48.181
20	UTERU3001572	0.000	6.073
	UTERU3004709	0.000	48.181
	UTERU3005230	24.419	0.000
	UTERU3005907	0.000	14.514
	UTERU3007640	45.606	0.000
25	UTERU3009871	36.230	0.000
	ADRGL2000042	2.540	0.000
	BLADE2006830	1.681	0.000
	BRACE2003609	9.090	0.000
	BRAMY3004800	38.061	0.000
30	BRAWH1000369	100.000	0.000
	BRAWH2006207	12.943	0.000
	BRAWH2006395	12.446	0.000
	BRAWH2008993	49.811	0.000
	BRAWH2009393	100.000	0.000
35	BRAWH2010552	58.488	0.000
	BRAWH3007441	100.000	0.000

	BRAWH3009017	100.000	0.000
	BRHIP2005271	7.083	7.855
	BRHIP3000017	8.819	0.000
	BRTHA2002133	0.000	100.000
5	BRTHA2002702	0.000	100.000
	BRTHA2007060	0.000	100.000
	BRTHA2010033	0.000	100.000
	BRTHA2011321	0.000	100.000
	BRTHA2013426	0.000	100.000
10	BRTHA2013610	0.000	100.000
	BRTHA2016318	0.000	100.000
	BRTHA2017364	0.000	100.000
	BRTHA2017972	0.000	37.427
	BRTHA2018011	0.000	100.000
15	BRTHA2018443	22.098	49.012
	BRTHA3000296	0.000	100.000
	BRTHA3003000	17.150	19.019
	BRTHA3008826	0.000	100.000
	CTONG2008721	0.000	37.320
20	CTONG2020374	31.081	0.000
	CTONG2020378	16.140	0.000
	CTONG2024031	2.584	0.000
	FCBBF1000509	3.732	6.208
	FEBRA2001990	18.144	8.048
25	FEBRA2006519	11.891	0.000
	FEBRA2028516	8.007	1.268
	HCHON2000743	6.105	6.771
	HSYRA2005628	0.000	7.437
	IMR322001879	9.638	0.000
30	NT2RI2009583	0.224	1.489
	OCBBF2008144	5.768	3.198
	PERIC2007068	3.086	1.711
	PUAEN2006335	12.682	0.000
	SPLEN2016932	0.000	38.930
35	SPLEN2039379	5.792	3.212
	SYNOV2006620	0.000	33.957

	TEST14001984	60.471	0.000
	TEST14008058	8.814	0.000
	TEST14025268	60.471	0.000
	TEST14032090	60.471	0.000
5	THYMU3000360	39.314	0.000
	TLIVE2002046	5.445	12.076
	TRACH3000134	36.165	0.000
	UTERU2021820	24.929	27.645
	UTERU2028734	21.953	0.000

The result of comparative analysis of cDNA libraries derived from the amygdale (BRAMY), and from whole tissues of a normal brain (BRAWH) showed following genes whose expression levels differed between the two.

Table 9

	Clone ID	BRAWH	BRAMY
20	ASTR01000009	2.611	0.000
	BLADE2008398	12.401	0.000
	BRACE1000186	4.324	0.000
	BRACE1000258	31.956	0.000
	BRACE1000533	11.795	4.754
25	BRACE2005457	58.488	0.000
	BRACE2006319	0.000	3.532
	BRACE2010489	63.510	10.665
	BRACE2014657	15.451	7.784
	BRACE2015058	0.000	8.836
30	BRACE2027258	0.000	34.044
	BRACE2030341	0.000	6.969
	BRACE2031389	0.000	30.747
	BRACE2035301	10.177	10.254
	BRACE2044286	18.667	0.000
35	BRACE2045954	27.309	0.000
	BRACE3000787	32.844	0.000

	BRACE3000973	0.000	13.581
	BRACE3003192	58.488	0.000
	BRACE3005499	31.276	0.000
	BRACE3007480	19.471	6.540
5	BRACE3008036	0.000	18.594
	BRACE3009237	18.139	0.000
	BRACE3009724	58.488	0.000
	BRACE3009747	2.237	0.000
	BRACE3010428	6.868	3.460
10	BRACE3011271	11.036	11.120
	BRACE3011421	28.251	0.000
	BRACE3012364	8.506	0.000
	BRACE3013780	0.000	4.833
	BRACE3022769	4.285	4.318
15	BRACE3026735	24.173	24.356
	BRACE3027478	0.000	16.126
	BRACE3031838	58.488	0.000
	BRALZ2011796	5.511	0.000
	BRAMY2001473	0.000	100.000
20	BRAMY2003008	26.445	26.646
	BRAMY2004771	0.000	100.000
	BRAMY2005052	11.612	46.801
	BRAMY2017528	0.000	100.000
	BRAMY2019300	49.811	50.189
25	BRAMY2019963	20.428	6.861
	BRAMY2019985	0.000	100.000
	BRAMY2020058	0.000	28.146
	BRAMY2020270	0.000	100.000
	BRAMY2021498	0.000	100.000
30	BRAMY2028856	0.000	100.000
	BRAMY2028914	0.000	17.849
	BRAMY2029602	0.000	100.000
	BRAMY2030098	0.000	42.496
	BRAMY2030109	0.000	100.000
35	BRAMY2030702	0.000	100.000
	BRAMY2030703	0.000	100.000

	BRAMY2030799	0.000	100.000
	BRAMY2031317	0.000	15.805
	BRAMY2031377	0.000	100.000
	BRAMY2031442	0.000	100.000
5	BRAMY2032014	0.000	100.000
	BRAMY2032242	0.000	100.000
	BRAMY2032317	0.000	60.652
	BRAMY2033003	0.000	100.000
	BRAMY2033116	0.000	100.000
10	BRAMY2033267	0.000	100.000
	BRAMY2033594	0.000	100.000
	BRAMY2034185	0.000	100.000
	BRAMY2034920	0.000	100.000
	BRAMY2034993	0.000	100.000
15	BRAMY2036387	0.000	13.490
	BRAMY2036396	0.000	100.000
	BRAMY2036567	7.474	22.594
	BRAMY2036699	0.000	100.000
	BRAMY2036913	0.000	100.000
20	BRAMY2037823	29.664	29.890
	BRAMY2038100	0.000	100.000
	BRAMY2038484	0.000	100.000
	BRAMY2038846	0.000	47.355
	BRAMY2038904	0.000	60.652
25	BRAMY2039872	0.000	19.976
	BRAMY2040478	0.000	100.000
	BRAMY2040592	3.482	7.017
	BRAMY2041261	0.000	100.000
	BRAMY2041378	0.000	100.000
30	BRAMY2041542	0.000	100.000
	BRAMY2042612	0.000	100.000
	BRAMY2042641	0.000	100.000
	BRAMY2042760	0.000	100.000
	BRAMY2042918	0.000	100.000
35	BRAMY2044078	0.000	8.836
	BRAMY2044246	0.000	100.000

	BRAMY2045036	0.000	100.000
	BRAMY2046478	0.000	100.000
	BRAMY2046742	0.000	100.000
	BRAMY2046989	0.000	100.000
5	BRAMY2047169	0.000	100.000
	BRAMY2047420	0.000	2.041
	BRAMY2047676	0.000	100.000
	BRAMY2047746	0.000	100.000
	BRAMY2047751	0.000	100.000
10	BRAMY2047765	0.000	100.000
	BRAMY2047884	0.000	100.000
	BRAMY3000206	0.000	100.000
	BRAMY3000213	0.000	100.000
	BRAMY3001401	0.000	100.000
15	BRAMY3001794	0.000	100.000
	BRAMY3002312	0.000	100.000
	BRAMY3002620	0.000	58.671
	BRAMY3002803	14.428	14.538
	BRAMY3002805	0.000	100.000
20	BRAMY3004224	33.027	33.278
	BRAMY3004672	0.000	100.000
	BRAMY3004900	0.000	100.000
	BRAMY3004919	0.000	100.000
	BRAMY3005091	19.193	19.339
25	BRAMY3005932	0.000	58.671
	BRAMY3006297	0.000	100.000
	BRAMY3007206	0.000	100.000
	BRAMY3007609	0.000	100.000
	BRAMY3008466	0.000	100.000
30	BRAMY3008505	0.000	100.000
	BRAMY3008650	0.000	100.000
	BRAMY3009811	0.000	33.057
	BRAMY3010411	0.000	100.000
	BRAMY4000095	0.000	14.721
35	BRAMY4000229	0.000	35.650
	BRAMY4000277	0.000	100.000

	BRAWH1000127	15.983	9.663
	BRAWH2001395	14.290	2.541
	BRAWH2001671	7.605	0.000
	BRAWH2001940	37.398	0.000
5	BRAWH2001973	37.398	0.000
	BRAWH2002560	6.454	6.503
	BRAWH2002761	100.000	0.000
	BRAWH2005315	100.000	0.000
	BRAWH2007658	58.101	0.000
10	BRAWH2010000	18.745	0.000
	BRAWH2010084	100.000	0.000
	BRAWH2010536	14.718	0.000
	BRAWH2012162	36.060	0.000
	BRAWH2012326	100.000	0.000
15	BRAWH2013294	39.442	0.000
	BRAWH2013871	37.485	0.000
	BRAWH2014414	17.865	54.002
	BRAWH2014645	4.228	2.130
	BRAWH2014662	15.521	0.000
20	BRAWH2014876	10.473	0.000
	BRAWH2014954	58.488	0.000
	BRAWH2016221	47.417	0.000
	BRAWH2016439	100.000	0.000
	BRAWH2016702	73.807	0.000
25	BRAWH2016724	35.119	0.000
	BRAWH3000078	100.000	0.000
	BRAWH3000100	100.000	0.000
	BRAWH3000314	71.553	0.000
	BRAWH3000491	100.000	0.000
30	BRAWH3001326	45.606	0.000
	BRAWH3001475	100.000	0.000
	BRAWH3001891	34.539	17.401
	BRAWH3002574	13.222	0.000
	BRAWH3002600	36.800	37.080
35	BRAWH3002819	100.000	0.000
	BRAWH3002821	21.953	0.000

	BRAWH3003522	100.000	0.000
	BRAWH3003555	15.229	0.000
	BRAWH3003727	10.055	0.000
	BRAWH3003801	100.000	0.000
5	BRAWH3003992	29.008	0.000
	BRAWH3004453	100.000	0.000
	BRAWH3004666	49.499	0.000
	BRAWH3005132	49.811	50.189
	BRAWH3005422	100.000	0.000
10	BRAWH3005912	100.000	0.000
	BRAWH3005981	29.324	0.000
	BRAWH3006548	71.018	0.000
	BRAWH3006792	49.499	0.000
	BRAWH3007221	100.000	0.000
15	BRAWH3007506	100.000	0.000
	BRAWH3007592	8.966	1.807
	BRAWH3007726	54.530	0.000
	BRAWH3007783	100.000	0.000
	BRAWH3008341	100.000	0.000
20	BRAWH3008697	100.000	0.000
	BRAWH3008931	3.463	6.980
	BRAWH3009297	58.488	0.000
	BRCAN2014881	0.000	30.516
	BRCAN2017717	0.000	10.719
25	BRCOC2000670	0.000	22.144
	BRCOC2003213	10.381	0.000
	BRCOC2014033	15.633	0.000
	BRCOC2020142	22.014	0.000
	BRHIP2000920	36.630	0.000
30	BRHIP2005719	49.499	0.000
	BRHIP2007741	6.943	8.745
	BRHIP2014228	29.439	0.000
	BRHIP2024146	3.042	2.759
	BRHIP2026061	0.000	30.812
35	BRHIP3000339	14.290	2.541
	BRHIP3001283	0.000	49.688

	BRHIP3006683	24.100	0.000
	BRHIP3007586	17.255	3.477
	BRHIP3008405	35.187	0.000
	BRHIP3018797	30.810	9.448
5	BRSSN2000684	23.433	0.000
	BRSSN2004496	0.000	21.304
	BRSSN2011738	31.553	0.000
	BRSSN2014299	3.695	0.000
	BRSTN2008052	32.844	0.000
10	BRSTN2010750	0.000	30.747
	BRSTN2015015	14.017	0.000
	BRSTN2016470	0.438	0.441
	BRTHA1000311	11.803	14.866
	BRTHA2008335	16.281	0.000
15	BRTHA2011641	0.000	47.605
	BRTHA3001721	0.000	23.737
	BRTHA3002427	8.577	5.761
	BRTHA3003490	1.623	0.000
	BRTHA3004475	0.000	47.605
20	BRTHA3008520	47.417	0.000
	BRTHA3009090	0.000	11.859
	BRTHA3017848	47.417	0.000
	COLON2001721	11.065	11.149
	CTONG1000087	0.000	3.161
25	CTONG2008233	0.000	0.692
	CTONG2017500	2.649	2.669
	CTONG2028124	0.503	0.506
	CTONG3000657	3.880	0.000
	CTONG3001123	7.847	0.000
30	CTONG3008894	0.000	4.395
	CTONG3009239	0.000	4.364
	CTONG3009328	11.993	0.000
	FCBBF20011^3	16.537	9.998
	FCBBF3001977	7.448	15.010
35	FEBRA2007544	14.689	0.000
	FEBRA2007801	4.937	0.000

	FEBRA2008287	0.000	2.970
	FEBRA2010719	0.000	17.484
	FEBRA2020886	12.124	0.000
	FEBRA2025427	0.000	4.995
5	FEBRA2028618	5.082	5.121
	HCASM2007047	3.431	0.000
	HCHON2000244	0.658	0.663
	HCHON2000626	2.351	0.000
	HCHON2001217	3.123	0.000
10	HCHON2002676	13.647	0.000
	HCHON2006250	1.565	0.000
	HCHON2008112	0.000	13.736
	HEART1000074	0.759	0.000
	HHDPC1000118	2.096	0.000
15	HLUNG2002465	1.209	4.875
	HSYRA2009075	0.000	1.212
	IMR322000127	3.098	10.926
	IMR322001380	0.000	11.984
	IMR322002035	36.176	0.000
20	KIDNE2000665	0.000	1.951
	KIDNE2006580	7.013	7.066
	MESAN2006563	0.691	0.000
	MESAN2012054	12.754	0.000
	MESAN2015515	0.000	2.677
25	MESTC1000042	2.245	0.000
	NOVAR2001783	4.027	0.000
	NT2NE2005890	0.000	35.735
	NT2NE2006909	0.285	0.287
	NT2RI2008724	1.836	1.850
30	NT2RI2012659	13.562	13.665
	NT2RI2014733	24.938	0.000
	NT2RI3001515	0.000	21.825
	NT2RI3002^92	8.799	1.773
	NT2RI3005724	0.000	5.972
35	NT2RI3006284	4.138	0.000
	NT2RI3006673	19.959	10.055

	NT2RI3007543	1.697	0.855
	NT2RI3008055	44.179	0.000
	NT2RP7005529	14.766	7.439
	NT2RP7009147	14.337	0.000
5	NT2RP7014005	5.818	0.000
	NT2RP7017474	18.823	0.000
	NTONG2005969	0.000	6.473
	OCBBF1000254	0.000	44.784
	OCBBF2001794	4.728	4.764
10	OCBBF2006005	9.535	0.000
	OCBBF2006764	15.345	15.461
	OCBBF2007028	9.665	6.956
	OCBBF2007114	0.000	21.540
	OCBBF2010140	32.508	0.000
15	OCBBF2021286	18.456	0.000
	OCBBF2023162	0.000	31.080
	OCBBF2024850	4.445	2.239
	OCBBF2028935	5.789	1.167
	OCBBF2035214	0.000	44.784
20	OCBBF2036743	11.053	11.137
	OCBBF2038317	19.713	0.000
	OCBBF3000483	11.973	4.021
	OCBBF3008230	29.840	0.000
	PEBLM2004666	3.715	3.744
25	PERIC2000889	0.000	8.963
	PERIC2003720	0.000	13.012
	PLACE6001185	21.358	0.000
	PUAEN2005930	18.362	0.000
	PUAEN2006701	2.249	0.000
30	PUAEN2007044	8.600	1.444
	PUAEN2009174	0.000	2.856
	PUAEN2009655	18.275	0.000
	SKNMC2002402	0.000	7.428
	SKNSH2000482	0.000	9.821
35	SPLEN2001599	0.000	7.190
	SPLEN2002467	0.000	6.565

	SPLEN2028914	2.792	0.000
	SPLEN2029912	0.000	1.646
	SPLEN2031424	15.229	0.000
	SPLEN2031547	1.574	4.759
5	SPLEN2034781	27.984	0.000
	SPLEN2036932	2.932	0.000
	SPLEN2038345	0.000	29.627
	SYNOV2014400	12.977	0.000
	SYNOV4002346	5.997	0.000
10	SYNOV4002883	23.940	0.000
	SYNOV4007430	31.677	0.000
	SYNOV4007671	0.000	0.739
	SYNOV4008440	1.475	0.000
	TESOP2002451	2.375	0.000
15	TESTI2009474	0.000	2.036
	TESTI4000014	1.964	1.799
	TESTI4000209	2.649	2.669
	TESTI4001100	4.098	4.129
	TESTI4006137	25.755	0.000
20	TESTI4008797	12.429	0.000
	TESTI4009286	1.450	0.000
	TESTI4010851	3.280	2.203
	TESTI4013817	27.163	27.369
	TESTI4014159	0.000	11.810
25	TESTI4014694	2.229	0.000
	TESTI4021478	22.098	0.000
	TESTI4022936	26.445	26.646
	TESTI4024420	37.398	0.000
	TESTI4027821	60.471	0.000
30	TESTI4029836	0.000	60.652
	TESTI4037156	0.000	1.394
	TESTI4037188	0.000	60.652
	THYMU2001090	21.252	0.000
	THYMU2014353	0.000	37.663
35	THYMU2033308	13.964	0.000
	THYMU2035735	1.319	0.000

	THYMU2037226	0.000	17.265
	THYMU2039315	54.530	0.000
	THYMU3001234	11.085	0.000
	THYMU3001379	0.000	25.376
5	THYMU3004835	0.000	19.793
	THYMU3008171	20.170	0.000
	TKIDN2009641	5.782	5.826
	TKIDN2009889	35.077	0.000
	TKIDN2015788	5.261	5.301
10	TLIVE2004320	0.000	12.783
	TRACH1000205	19.677	3.965
	TRACH2001549	8.457	4.260
	TRACH2001684	0.000	17.948
	TRACH2005811	2.109	0.000
15	TRACH2006049	47.167	0.000
	TRACH2007834	0.504	1.016
	TRACH2008300	10.186	11.974
	TRACH2025344	0.000	19.846
	TRACH2025535	5.806	0.000
20	TRACH2025911	0.000	47.355
	TRACH3001427	5.571	3.742
	TRACH3002192	4.989	1.885
	TRACH3004068	0.000	1.436
	TRACH3004721	8.721	5.858
25	TRACH3005294	7.428	0.000
	TRACH3007479	1.075	1.084
	TRACH3008093	2.449	0.000
	TRACH3009455	47.167	0.000
	TUTER2000904	0.000	2.813
30	UTERU2002410	0.000	0.592
	UTERU2004929	0.000	11.697
	UTERU2006115	7.837	0.000
	UTERU2007520	0.000	6.758
	UTERU2019706	45.606	0.000
35	UTERU2023039	45.606	0.000
	UTERU2026203	45.606	0.000

	UTERU3001572	0.000	1.839
	UTERU3001766	0.000	45.794
	UTERU3005230	24.419	0.000
	UTERU3007640	45.606	0.000
5	UTERU3009517	0.000	45.794
	UTERU3009871	36.230	0.000
	ADRG2000042	2.540	5.118
	BLADE2006830	1.681	0.000
	BRACE2003609	9.090	18.317
10	BRACE2039823	0.000	58.671
	BRAMY2019111	0.000	30.516
	BRAMY2035070	0.000	54.718
	BRAMY2035449	0.000	100.000
	BRAMY2035718	0.000	100.000
15	BRAMY2038516	0.000	12.770
	BRAMY2039341	0.000	100.000
	BRAMY2040159	0.000	100.000
	BRAMY2041434	0.000	100.000
	BRAMY2045471	0.000	100.000
20	BRAMY3004800	38.061	15.340
	BRAWH1000369	100.000	0.000
	BRAWH2006207	12.943	0.000
	BRAWH2006395	12.446	0.000
	BRAWH2008993	49.811	50.189
25	BRAWH2009393	100.000	0.000
	BRAWH2010552	58.488	0.000
	BRAWH3007441	100.000	0.000
	BRAWH3009017	100.000	0.000
	BRHIP2005271	7.083	7.137
30	BRHIP3000017	8.819	0.000
	BRTHA2018443	22.098	0.000
	BRTHA3003000	17.150	0.000
	CTONG2020374	31.081	0.000
	CTONG2020378	16.140	0.000
35	CTONG2024031	2.584	0.000
	FCBBF1000509	3.732	13.160

	FEBRA2001990	18.144	7.313
	FEBRA2006519	11.891	11.982
	FEBRA2028516	8.007	2.305
	HCHON2000508	0.000	0.376
5	HCHON2000743	6.105	0.000
	IMR322001879	9.638	0.000
	NT2RI2009583	0.224	0.902
	OCBBF2008144	5.768	2.906
	PERIC2007068	3.086	0.000
10	PUAEN2006335	12.682	0.000
	SPLEN2039379	5.792	11.672
	TESTI2015626	0.000	0.331
	TESTI2026647	0.000	23.811
	TESTI4001984	60.471	0.000
15	TESTI4008058	8.814	0.000
	TESTI4013894	0.000	14.112
	TESTI4025268	60.471	0.000
	TESTI4032090	60.471	0.000
	THYMU3000360	39.314	0.000
20	TKIDN2018926	0.000	21.396
	TLIVE2002046	5.445	10.972
	TRACH3000134	36.165	0.000
	UTERU2008040	0.000	11.858
	UTERU2021820	24.929	0.000
25	UTERU2028734	21.953	0.000

The result of comparative analysis of cDNA libraries derived from breast tumor (TBAES), and normal breast (BEAST) showed the following genes whose expression levels differed between the two.

Table 10

Clone ID	BEAST	TBAES
ASTRO2002842	0.000	67.001

	BRACE3016884	0.000	90.835
	BRSSN2011262	61.476	0.000
	BRTHA2008335	0.000	57.267
	HCHON2000244	0.000	4.627
5	HCHON2006250	0.000	11.007
	HEART1000010	0.000	24.034
	MESAN2012054	0.000	35.889
	NT2RP7000466	0.000	85.728
	NT2RP7009147	0.000	11.206
10	OCBBF2021020	0.000	18.756
	PEBLM2002749	0.000	48.344
	PEBLM2004666	0.000	26.137
	SPLEN2001599	0.000	50.196
	SPLEN2031547	0.000	11.076
15	STOMA1000189	0.000	22.002
	TBAES2001171	0.000	100.000
	TBAES2001220	0.000	100.000
	TBAES2001229	0.000	100.000
	TBAES2001258	0.000	66.863
20	TBAES2001492	0.000	100.000
	TBAES2001751	0.000	100.000
	TBAES2002197	0.000	54.528
	TBAES2003550	0.000	100.000
	TBAES2004055	0.000	100.000
25	TBAES2005157	0.000	100.000
	TBAES2005543	0.000	100.000
	TBAES2006568	0.000	100.000
	TBAES2007964	0.000	100.000
	TESTI4000014	0.000	1.256
30	TESTI4037156	0.000	3.893
	TRACH3002192	0.000	4.387
	TRACH3004068	0.000	10.026
	TSTOM2000553	0.000	11.859
	UTERU2002410	0.000	8.261
35	BRAWH2006395	0.000	87.554
	NT2RI2009583	4.881	0.000

STOMA2004893	0.000	50.829
TBAES2000932	0.000	100.000

5 The result of comparative analysis of cDNA libraries derived cervical tumor (TCERX), and normal cervical duct (CERVX) showed the following genes whose expression levels differed between the two.

Table 11

10	Clone ID	CERVX	TCERX
	BLADE2007666	70.405	0.000
	BRAMY2047420	0.000	21.378
15	BRCAN2007409	0.000	63.318
	BRSTN2016470	0.000	9.238
	CERVX1000042	100.000	0.000
	CERVX2002006	100.000	0.000
	MESAN2006563	14.270	0.000
20	PROST2018090	44.955	0.000
	TCERX2000613	0.000	85.503
	TEST14037156	0.000	5.840
	THYMU2031341	71.304	0.000
	UTERU2004688	22.977	70.393
25	CERVX2002013	100.000	0.000
	NT2RI2009583	0.000	9.443

30 The result of comparative analysis of cDNA libraries derived from colon tumor (TCOLN), and normal colon (COLON) showed the following genes whose expression levels differed between the two.

Table 12

35	Clone ID	COLON	TCOLN
----	----------	-------	-------

	BRACE3015027	0.000	55.019
	BRAMY2040592	24.447	0.000
	BRSTN2016470	6.147	9.281
	COLON1000030	100.000	0.000
5	COLON2000470	50.006	0.000
	COLON2000568	100.000	0.000
	COLON2001721	38.840	0.000
	COLON2002443	31.658	0.000
	COLON2002520	100.000	0.000
10	COLON2003043	100.000	0.000
	COLON2004478	100.000	0.000
	COLON2005126	100.000	0.000
	COLON2005772	100.000	0.000
	COLON2006282	100.000	0.000
15	COLON2009499	100.000	0.000
	OCBBF2028935	8.128	0.000
	PLACE7000514	33.393	0.000
	RECTM2000433	24.395	0.000
	SYNOV4007671	5.146	0.000
20	TCOLN2002278	0.000	100.000
	TEST12052693	23.507	35.495
	TEST14037156	1.943	0.000
	THYMU2031368	0.000	96.216
	TRACH2025535	16.304	0.000
25	CTONG1000113	79.033	0.000
	NT2RI2009583	0.000	4.744
	NT2RI2018448	44.206	0.000
	TEST12015626	2.309	0.000

30 The result of comparative analysis of cDNA libraries derived from esophageal tumor (TESOP), and normal esophagus (NESOP) showed the following genes whose expression levels differed between the two.

35 Table 13

	Clone ID	NESOP	TESOP
	BRACE2030341	0.000	47.323
	BRAMY2047420	21.553	0.000
5	BRHIP2003917	0.000	80.343
	BRTHA2003461	0.000	15.017
	CTONG2013178	0.000	64.748
	D30ST3000169	0.000	6.696
	FEBRA2025427	0.000	16.960
10	HCHON2000244	0.000	4.501
	HHDPC1000118	0.000	14.339
	NESOP2000744	100.000	0.000
	NESOP2001433	100.000	0.000
	NESOP2001656	85.181	0.000
15	NESOP2001694	100.000	0.000
	NESOP2001752	96.772	0.000
	NESOP2002738	100.000	0.000
	NT2RI3006284	0.000	14.156
	NT2RP7009147	33.894	0.000
20	PLACE6019932	92.281	0.000
	SYNOV2005216	0.000	66.809
	TESOP1000127	0.000	65.101
	TESOP2000801	0.000	100.000
	TESOP2001122	0.000	100.000
25	TESOP2001166	0.000	100.000
	TESOP2001345	0.000	100.000
	TESOP2001605	0.000	66.809
	TESOP2001818	0.000	100.000
	TESOP2001849	0.000	100.000
30	TESOP2001865	0.000	100.000
	TESOP2001953	0.000	89.137
	TESOP2002273	0.000	27.770
	TESOP2002451	0.000	16.251
	TESOP2002489	0.000	100.000
35	TESOP2002539	0.000	100.000
	TESOP2002950	0.000	90.601

	TESOP2003273	0.000	100.000
	TESOP2003753	0.000	100.000
	TESOP2004114	0.000	100.000
	TESOP2005285	0.000	100.000
5	TESOP2005485	0.000	100.000
	TESOP2005579	0.000	100.000
	TESOP2006041	0.000	100.000
	TESOP2006060	0.000	100.000
	TESOP2006068	0.000	100.000
10	TESOP2006670	0.000	79.728
	TESOP2006746	0.000	100.000
	TESOP2007052	0.000	100.000
	TESOP2007262	0.000	100.000
	TESOP2007636	0.000	100.000
15	TESOP2007688	0.000	100.000
	TESOP2009121	0.000	100.000
	TESOP2009555	0.000	100.000
	TEST14009286	15.424	9.920
	TEST14010851	0.000	3.740
20	THYMU2040975	0.000	12.019
	TRACH2005811	0.000	14.431
	UTERU2023175	0.000	10.186
	CTONG2016942	0.000	78.602
	NT2R12009583	0.000	1.531
25	TESOP2000390	0.000	100.000
	TESOP2001796	0.000	100.000
	TESOP2005199	0.000	100.000
	TESOP2006398	0.000	100.000
	TESOP2006865	0.000	100.000
30	TESOP2007384	0.000	13.734
	TEST12015626	0.000	2.250
	TRACH2000862	0.000	39.606

The result of comparative analysis of cDNA libraries
 derived from kidney tumor (TKIDN), and normal kidney (KIDNE)

showed the following genes whose expression levels differed between the two.

Table 14

5			
	Clone ID	KIDNE	TKIDN
	ASTR02018373	0.000	51.654
	BRACE1000186	0.000	16.007
10	BRACE2014306	0.000	18.017
	BRACE2015058	0.000	16.230
	BRACE2016981	0.000	83.911
	BRACE2043665	83.085	0.000
	BRACE3008036	0.000	68.309
15	BRACE3010428	3.991	0.000
	BRACE3022769	0.000	5.287
	BRAMY2019963	0.000	25.206
	BRAMY2044078	0.000	16.230
	BRAWH1000127	0.000	11.833
20	BRAWH2001395	0.000	9.335
	BRAWH2001671	0.000	14.075
	BRAWH2013294	0.000	36.500
	BRAWH2014645	0.000	3.913
	BRHIP2024146	0.000	7.882
25	BRHIP3000339	0.000	9.335
	BRSSN2000684	0.000	17.348
	BRSSN2004719	0.000	19.395
	BRSSN2018581	0.000	49.863
	BRSTN2016470	0.763	0.810
30	BRTHA1000311	0.000	10.923
	BRTHA3002427	0.000	10.582
	CTONG1000087	3.646	0.000
	CTONG2028124	3.504	0.000
	CTONG3000657	0.000	14.362
35	CTONG3008894	2.534	0.000
	FCBBF2001183	0.000	12.243

	FEBRA2008287	0.000	10.911
	HCASM2001301	0.000	35.796
	HCHON2000028	0.000	5.873
	HCHON2000244	4.587	0.000
5	HEART1000074	2.646	0.000
	HHDPC1000118	7.307	0.000
	HSYRA2008376	0.000	5.788
	KIDNE1000064	100.000	0.000
	KIDNE2000665	13.498	0.000
10	KIDNE2000722	100.000	0.000
	KIDNE2000832	32.592	0.000
	KIDNE2000846	100.000	0.000
	KIDNE2001361	80.699	0.000
	KIDNE2001847	12.687	0.000
15	KIDNE2002252	7.600	0.000
	KIDNE2002991	100.000	0.000
	KIDNE2003837	100.000	0.000
	KIDNE2005543	62.084	0.000
	KIDNE2006580	48.900	0.000
20	KIDNE2010264	100.000	0.000
	KIDNE2011314	75.867	0.000
	KIDNE2011532	100.000	0.000
	KIDNE2011635	48.502	51.498
	KIDNE2012945	48.732	0.000
25	KIDNE2013095	100.000	0.000
	NESOP2001656	0.000	14.819
	NTONG2005969	0.000	11.891
	PEBLM2004666	12.953	0.000
	SKMUS2000757	0.000	18.292
30	STOMA1000189	16.356	0.000
	SYNOV4007671	2.556	5.427
	TBAES2001258	33.137	0.000
	TESTI4000014	1.245	0.000
	TESTI4001100	0.000	15.168
35	TESTI4012702	7.600	0.000
	TESTI4046819	0.000	73.082

	THYMU2032014	57.532	0.000
	TKIDN2000701	0.000	84.991
	TKIDN2002424	0.000	100.000
	TKIDN2002632	0.000	100.000
5	TKIDN2003044	0.000	100.000
	TKIDN2004386	0.000	100.000
	TKIDN2005934	0.000	100.000
	TKIDN2005947	0.000	100.000
	TKIDN2006525	0.000	100.000
10	TKIDN2006852	0.000	100.000
	TKIDN2007667	0.000	100.000
	TKIDN2009092	0.000	100.000
	TKIDN2009641	0.000	21.402
	TKIDN2009889	0.000	64.923
15	TKIDN2010934	0.000	74.873
	TKIDN2012824	0.000	100.000
	TKIDN2013287	0.000	64.067
	TKIDN2014757	0.000	100.000
	TKIDN2014771	0.000	100.000
20	TKIDN2015263	0.000	100.000
	TKIDN2015788	0.000	9.737
	TKIDN2016309	0.000	100.000
	TKIDN2019116	0.000	100.000
	TRACH2001443	0.000	34.396
25	TRACH2001684	62.100	0.000
	TRACH2007834	1.758	3.734
	TRACH2008300	0.000	6.284
	TRACH3001427	0.000	3.437
	UTERU2002410	0.000	2.173
30	UTERU2023175	5.190	0.000
	UTERU3001572	0.000	6.758
	BLADE2006830	0.000	6.222
	BRALZ2017844	0.000	50.604
	CTONG2028758	0.000	59.532
35	FCBBF1000509	0.000	6.907
	FEBRA2001990	0.000	13.433

	FEBRA2028516	0.000	4.234
	HCHON2000508	0.000	1.382
	MESAN2005303	0.000	29.326
	NT2RI2009583	10.920	0.828
5	TESTI2015626	0.000	4.869
	TKIDN2008778	0.000	100.000
	TKIDN2012771	0.000	100.000
	TKIDN2018926	0.000	78.604

10 The result of comparative analysis of cDNA libraries derived from liver tumor (TLIVE), and normal liver (LIVER) showed the following genes whose expression levels differed between the two.

15 Table 15

	Clone ID	LIVER	TLIVE
	BRCAN2018935	79.072	0.000
20	BRSTN2016470	1.897	0.000
	BRTHA2012980	0.000	86.110
	BRTHA3002427	0.000	19.655
	CTONG2028124	0.000	3.455
	LIVER2007415	100.000	0.000
25	NT2RI2008724	0.000	12.626
	SPLEN2012624	43.831	0.000
	SPLEN2033098	0.000	34.211
	TESOP2002451	0.000	16.330
	TLIVE2000023	0.000	100.000
30	TLIVE2001327	0.000	64.491
	TLIVE2001828	0.000	89.183
	TLIVE2001927	0.000	100.000
	TLIVE2002336	0.000	100.000
	TLIVE2002338	0.000	100.000
35	TLIVE2002690	0.000	41.431
	TLIVE2003197	0.000	100.000

	TLIVE2003225	0.000	100.000
	TLIVE2003381	0.000	100.000
	TLIVE2003970	0.000	15.901
	TLIVE2004110	0.000	70.982
5	TLIVE2004320	0.000	87.217
	TLIVE2004601	0.000	100.000
	TLIVE2005180	0.000	100.000
	TLIVE2006236	0.000	100.000
	TLIVE2006529	0.000	100.000
10	TLIVE2007132	0.000	100.000
	TLIVE2007528	0.000	100.000
	TLIVE2007816	0.000	100.000
	TLIVE2008083	0.000	100.000
	TLIVE2008229	0.000	91.317
15	TLIVE2009541	0.000	100.000
	UTERU2002410	0.000	4.037
	UTERU2005621	19.540	0.000
	LIVER2000247	100.000	0.000
	NT2R12009583	1.939	4.615
20	TEST12015626	0.000	2.261
	TLIVE2001684	0.000	100.000
	TLIVE2002046	0.000	12.478
	TLIVE2007607	0.000	100.000

25 The result of comparative analysis of cDNA libraries derived from lung tumor (TLUNG), and normal lung (HLUNG) showed the following genes whose expression levels differed between the two.

30 Table 16

	Clone ID	HLUNG	TLUNG
	BRCAN2021028	38.589	0.000
35	BRHIP2000819	7.923	0.000
	BRSTN2016470	0.803	0.000

	CTONG1000087	3.835	0.000
	CTONG2028124	9.217	0.000
	HCHON2006250	0.000	32.381
	HEART1000074	2.784	0.000
5	HLUNG1000017	100.000	0.000
	HLUNG2000014	100.000	0.000
	HLUNG2001996	76.784	0.000
	HLUNG2002465	4.436	0.000
	HLUNG2002958	100.000	0.000
10	HLUNG2003003	29.311	0.000
	HLUNG2003872	100.000	0.000
	HLUNG2010464	100.000	0.000
	HLUNG2011041	100.000	0.000
	HLUNG2011298	35.254	0.000
15	HLUNG2012049	100.000	0.000
	HLUNG2012287	100.000	0.000
	HLUNG2012727	100.000	0.000
	HLUNG2013204	100.000	0.000
	HLUNG2013304	100.000	0.000
20	HLUNG2013622	100.000	0.000
	HLUNG2013851	100.000	0.000
	HLUNG2014262	100.000	0.000
	HLUNG2014288	100.000	0.000
	HLUNG2014449	100.000	0.000
25	HLUNG2015617	100.000	0.000
	HLUNG2017350	100.000	0.000
	HLUNG2017546	12.944	0.000
	HLUNG2017806	100.000	0.000
	HLUNG2019058	100.000	0.000
30	HSYRA2008376	11.470	0.000
	KIDNE2012945	51.268	0.000
	NT2RI2003993	13.924	0.000
	NT2RP7013795	0.000	89.568
	OCBBF3000483	14.638	0.000
35	SPLEN2028914	10.242	0.000
	SPLEN2031547	5.775	0.000

	SYNOV4007671	2.689	0.000
	TESOP1000127	34.899	0.000
	TESTI2003573	27.394	0.000
	TESTI4000014	0.655	0.000
5	TESTI4037156	2.030	0.000
	TRACH2005811	3.868	0.000
	TRACH3004068	5.227	0.000
	UTERU2005621	8.268	0.000
	FEBRA2028516	4.195	0.000
10	HCHON2000508	1.370	0.000
	HLUNG2013350	100.000	0.000
	HLUNG2015418	76.605	0.000
	HLUNG2015548	100.000	0.000
	HLUNG2016862	100.000	0.000
15	NT2RI2009583	0.000	13.890
	TESTI2015626	2.412	0.000
	TRACH2019672	76.605	0.000

The result of comparative analysis of cDNA libraries derived from ovary tumor (TOVER), and normal ovary (NOVER) showed the following genes whose expression levels differed between the two.

Table 17A

Clone ID	NOVAR	TOVAR
CTONG2019788	72.878	0.000
FEBRA2014213	0.000	85.773
30 HLUNG2017546	84.114	0.000
NOVAR2000136	100.000	0.000
NOVAR2000710	83.961	0.000
NOVAR2000962	100.000	0.000
NOVAR2001108	100.000	0.000
35 NOVAR2001783	95.973	0.000
OCBBF3007516	90.145	0.000

	TEST12052693	39.903	0.000
	TOVAR2000649	0.000	100.000
	TOVAR2001281	0.000	100.000
	TOVAR2001730	0.000	100.000
5	TOVAR2002247	0.000	100.000
	TOVAR2002549	0.000	100.000
	TRACH3004068	0.000	31.044

10 The result of comparative analysis of cDNA libraries derived from ovary tumor (TOVER), and normal ovary (NOVER) showed the following genes whose expression levels differed between the two.

Table 17B

15	Clone ID	NOVAR	TOVAR
	TEST12015626	7.838	7.163

20 The gene has no different expression levels between normal and diseased ovary. However, the gene showed significantly different expression level in both ovary tumor and normal ovary, compared with other tissues (as in Example 9). Thus, the gene are ovary-specific gene and can be used as diagnostic marker
25 because its association with the disease.

The result of comparative analysis of cDNA libraries derived from stomach tumor (TSTOM) and normal stomach (STOMA) showed the following genes whose expression levels differed between the two.

30

Table 18

	Clone ID	STOMA	TSTOM
35	BRACE2024627	83.309	0.000
	BRAWH2014645	0.000	22.702

	BRCAN2028355	0.000	31.728
	BRHIP2000819	14.701	46.392
	BRSTN2016470	1.490	0.000
	BRTHA3003490	0.000	34.864
5	COLON2002443	30.687	0.000
	HEART1000010	23.250	0.000
	HLUNG2002465	8.231	0.000
	KIDNE2001847	0.000	78.156
	NT2RP7000466	5.924	0.000
10	PUAEN2006328	0.000	79.193
	SMINT2001818	12.758	0.000
	STOMA1000189	10.642	0.000
	STOMA2003444	91.236	0.000
	STOMA2004294	100.000	0.000
15	STOMA2004925	85.088	0.000
	STOMA2008546	100.000	0.000
	SYNOV4007671	4.989	0.000
	TESTI4000014	0.000	3.835
	TESTI4010851	3.720	0.000
20	THYMU2035735	0.000	28.332
	TRACH2001549	28.775	0.000
	TRACH2005811	0.000	22.648
	TRACH2025535	0.000	12.468
	TSTOM1000135	0.000	90.639
25	TSTOM2000442	0.000	100.000
	TSTOM2000553	0.000	36.203
	TSTOM2002672	0.000	100.000
	UTERU2006115	53.335	0.000
	UTERU3001572	12.423	0.000
30	FEBRA2008692	0.000	52.692
	NT2RI2009583	7.613	0.000
	STOMA2003158	41.655	0.000
	STOMA2004893	49.171	0.000
	TESTI2015626	2.238	0.000

The result of comparative analysis of cDNA libraries derived from uterine tumor (TUTER) and normal uterus (UTERU) showed the following genes whose expression levels differed between the two.

5

Table 19

	Clone ID	UTERU	TUTER
10	BNGH42007788	3.672	0.000
	BRACE1000186	2.579	0.000
	BRACE2030341	16.499	0.000
	BRACE3008772	62.692	0.000
	BRACE3009747	2.668	0.000
15	BRACE3010428	5.461	0.000
	BRACE3027478	19.089	0.000
	BRALZ2017359	24.816	0.000
	BRAWH2014645	2.522	0.000
	BRAWH3000314	28.447	0.000
20	BRAWH3001326	54.394	0.000
	BRAWH3002574	7.885	0.000
	BRAWH3002821	26.183	0.000
	BRAWH3003727	11.993	0.000
	BRAWH3007592	4.277	0.000
25	BRCAN2009432	3.141	29.345
	BRCAN2028355	1.762	0.000
	BRHIP3007586	4.116	0.000
	BRHIP3008344	53.896	0.000
	BRHIP3008565	53.896	0.000
30	BRSSN2006892	18.468	0.000
	BRSTN2001067	7.384	0.000
	BRSTN2016470	0.522	0.000
	BRTHA2010608	51.819	0.000
	BRTHA3003074	13.429	0.000
35	CTONG1000087	2.494	0.000
	CTONG1000467	10.248	0.000

	CTONG2028124	2.997	0.000
	CTONG3001123	9.359	0.000
	CTONG3008894	0.867	0.000
	CTONG3009028	3.839	0.000
5	CTONG3009239	1.722	0.000
	FCBBF3004847	39.231	0.000
	FEBRA2026984	20.914	0.000
	FEBRA2028618	6.061	0.000
	HCHON2000244	1.569	0.000
10	HCHON2000418	15.860	0.000
	HCHON2000626	5.608	0.000
	HCHON2001084	2.739	0.000
	HCHON2001217	4.966	0.000
	HCHON2005921	24.732	0.000
15	HCHON2006250	0.000	34.872
	HCHON2008444	15.860	0.000
	HLUNG2003003	28.594	0.000
	HSYRA2008376	1.865	0.000
	KIDNE2002252	2.600	0.000
20	MESAN2014295	24.337	0.000
	NOVAR2000710	4.201	0.000
	NT2RI2008724	2.190	0.000
	NT2RI2014247	18.191	0.000
	NT2RI2014733	29.743	0.000
25	NT2RI3002892	18.890	0.000
	NT2RI3005724	7.069	0.000
	NT2RI3006284	0.000	46.111
	NT2RI3006340	19.479	0.000
	NT2RI3006673	11.902	0.000
30	NT2RI3007291	14.928	0.000
	NT2RI3007543	1.012	0.000
	NT2RP7004123	2.289	0.000
	NT2RP7005529	8.006	0.000
	NT2RP7009147	1.900	0.000
35	NT2RP7017474	22.450	0.000
	OCBBF2007028	8.234	0.000

	OCBBF2020741	33.655	0.000
	OCBBF2024850	26.505	0.000
	OCBBF2036743	13.183	0.000
	OCBBF3000483	9.520	0.000
5	PLACE6001185	25.473	0.000
	PLACE7000514	5.673	0.000
	PUAEN2007044	1.710	0.000
	PUAEN2009655	4.359	0.000
	SKNSH2000482	23.251	0.000
10	SPLEN2006122	0.000	18.769
	SPLEN2016554	22.228	0.000
	SPLEN2031547	5.633	0.000
	SPLEN2036932	3.497	0.000
	STOMA1000189	1.865	0.000
15	STOMA2004925	14.912	0.000
	SYNOV2017055	20.136	0.000
	SYNOV4001395	21.660	0.000
	SYNOV4002346	7.153	0.000
	SYNOV4008440	1.759	0.000
20	TCERX2000613	14.497	0.000
	TESOP2002273	4.841	0.000
	TESTI4000014	0.639	0.000
	TESTI4008797	14.824	0.000
	TESTI4009286	2.594	0.000
25	TESTI4012702	2.600	0.000
	TESTI4013675	35.326	0.000
	TESTI4014159	13.979	0.000
	TESTI4018886	64.596	0.000
	TESTI4029671	22.183	0.000
30	TESTI4037156	1.320	0.000
	THYMU2008725	15.552	0.000
	THYMU2031890	21.176	0.000
	THYMU2033070	58.853	0.000
	THYMU2035735	11.014	0.000
35	THYMU3001472	20.097	0.000
	TRACH1000205	4.694	0.000

	TRACH2001443	11.083	0.000
	TRACH2001549	5.043	0.000
	TRACH2005811	1.258	0.000
	TRACH2007834	0.602	0.000
5	TRACH2008300	2.025	0.000
	TRACH3002192	4.463	0.000
	TRACH3003379	29.185	0.000
	TRACH3004068	1.700	0.000
	TRACH3004721	3.467	0.000
10	TRACH3007479	3.848	0.000
	TUTER1000122	0.000	72.738
	TUTER2000425	0.000	100.000
	TUTER2000904	3.330	62.217
	TUTER2000916	0.000	100.000
15	TUTER2001387	0.000	100.000
	TUTER2002729	0.000	100.000
	UTERU1000024	100.000	0.000
	UTERU1000031	100.000	0.000
	UTERU1000148	100.000	0.000
20	UTERU1000249	100.000	0.000
	UTERU1000337	100.000	0.000
	UTERU1000339	100.000	0.000
	UTERU2000649	100.000	0.000
	UTERU2001409	100.000	0.000
25	UTERU2002410	0.700	13.085
	UTERU2002841	64.596	0.000
	UTERU2004688	6.630	0.000
	UTERU2004929	13.845	0.000
	UTERU2005004	41.697	0.000
30	UTERU2005621	5.377	0.000
	UTERU2006115	9.347	0.000
	UTERU2006137	9.269	0.000
	UTERU200656°	100.000	0.000
	UTERU2007444	64.596	0.000
35	UTERU2007520	15.999	0.000
	UTERU2007724	15.672	0.000

	UTERU2008347	100.000	0.000
	UTERU2014678	48.981	0.000
	UTERU2017762	39.037	0.000
	UTERU2019491	100.000	0.000
5	UTERU2019681	100.000	0.000
	UTERU2019706	54.394	0.000
	UTERU2019940	51.819	0.000
	UTERU2020491	100.000	0.000
	UTERU2020718	100.000	0.000
10	UTERU2021163	53.896	0.000
	UTERU2021380	100.000	0.000
	UTERU2022020	100.000	0.000
	UTERU2022981	100.000	0.000
	UTERU2023039	54.394	0.000
15	UTERU2023175	7.103	0.000
	UTERU2023651	29.963	0.000
	UTERU2023712	100.000	0.000
	UTERU2024002	100.000	0.000
	UTERU2024656	51.568	0.000
20	UTERU2025025	100.000	0.000
	UTERU2025645	100.000	0.000
	UTERU2025891	100.000	0.000
	UTERU2026025	100.000	0.000
	UTERU2026090	100.000	0.000
25	UTERU2026203	54.394	0.000
	UTERU2027591	100.000	0.000
	UTERU2029953	100.000	0.000
	UTERU2030213	58.763	0.000
	UTERU2030280	51.819	0.000
30	UTERU2031084	25.928	0.000
	UTERU2031268	100.000	0.000
	UTERU2031521	100.000	0.000
	UTERU2031703	100.000	0.000
	UTERU2031851	100.000	0.000
35	UTERU2033375	1.385	0.000
	UTERU2033382	100.000	0.000

	UTERU2035114	51.568	0.000
	UTERU2035323	100.000	0.000
	UTERU2035328	100.000	0.000
	UTERU2035331	100.000	0.000
5	UTERU2035452	100.000	0.000
	UTERU2035469	100.000	0.000
	UTERU2035503	100.000	0.000
	UTERU2035745	100.000	0.000
	UTERU2036089	100.000	0.000
10	UTERU2037361	100.000	0.000
	UTERU2037577	100.000	0.000
	UTERU2038251	100.000	0.000
	UTERU3000226	62.692	0.000
	UTERU3000645	34.742	0.000
15	UTERU3000665	100.000	0.000
	UTERU3000828	100.000	0.000
	UTERU3000899	33.654	0.000
	UTERU3001059	100.000	0.000
	UTERU3001240	100.000	0.000
20	UTERU3001542	58.853	0.000
	UTERU3001571	51.819	0.000
	UTERU3001572	19.596	0.000
	UTERU3001585	100.000	0.000
	UTERU3001652	100.000	0.000
25	UTERU3001766	54.206	0.000
	UTERU3001988	100.000	0.000
	UTERU3002209	100.000	0.000
	UTERU3002218	51.568	0.000
	UTERU3002383	100.000	0.000
30	UTERU3002667	100.000	0.000
	UTERU3002731	100.000	0.000
	UTERU3002768	100.000	0.000
	UTERU3002786	51.568	0.000
	UTERU3002993	100.000	0.000
35	UTERU3003116	100.000	0.000
	UTERU3003135	39.146	0.000

	UTERU3003178	100.000	0.000
	UTERU3003465	100.000	0.000
	UTERU3003523	100.000	0.000
	UTERU3003776	100.000	0.000
5	UTERU3004523	100.000	0.000
	UTERU3004616	100.000	0.000
	UTERU3004709	51.819	0.000
	UTERU3004992	100.000	0.000
	UTERU3005049	58.853	0.000
10	UTERU3005205	100.000	0.000
	UTERU3005230	58.249	0.000
	UTERU3005460	62.692	0.000
	UTERU3005585	100.000	0.000
	UTERU3005907	15.610	0.000
15	UTERU3005970	62.692	0.000
	UTERU3006008	100.000	0.000
	UTERU3006308	62.692	0.000
	UTERU3007134	100.000	0.000
	UTERU3007419	62.692	0.000
20	UTERU3007640	54.394	0.000
	UTERU3007913	87.049	0.000
	UTERU3008660	100.000	0.000
	UTERU3008671	100.000	0.000
	UTERU3009259	53.896	0.000
25	UTERU3009490	100.000	0.000
	UTERU3009517	54.206	0.000
	UTERU3009690	100.000	0.000
	UTERU3009871	21.605	0.000
	UTERU3009979	100.000	0.000
30	UTERU3011063	100.000	0.000
	UTERU3015086	100.000	0.000
	UTERU3015500	100.000	0.000
	UTERU3016789	100.000	0.000
	UTERU3018081	40.205	0.000
35	UTERU3018154	100.000	0.000
	UTERU3018616	25.167	0.000

	UTERU3018711	86.466	0.000
	ADRGL2000042	3.029	0.000
	BRHIP3000017	15.777	0.000
	CTONG2003348	39.037	0.000
5	CTONG2019822	7.755	0.000
	CTONG2020378	19.250	0.000
	CTONG2020411	32.844	0.000
	CTONG2024031	6.165	0.000
	FEBRA2028516	1.364	0.000
10	HCASM2008536	15.228	0.000
	HCHON2000743	7.282	0.000
	IMR322001879	11.495	0.000
	MESAN2005303	9.449	0.000
	NT2RI2009583	0.267	0.000
15	OCBBF2008144	3.440	0.000
	PERIG2007068	5.521	0.000
	SPLEN2039379	10.362	0.000
	TESTI2015626	0.784	7.329
	TESTI4013894	33.408	0.000
20	TUTER2000057	0.000	92.461
	UTERU2004299	100.000	0.000
	UTERU2008040	14.037	0.000
	UTERU2011220	4.669	0.000
	UTERU2019534	100.000	0.000
25	UTERU2021820	29.732	0.000
	UTERU2028734	26.183	0.000
	UTERU2032279	100.000	0.000
	UTERU2033577	100.000	0.000
	UTERU2035978	100.000	0.000
30	UTERU3000402	100.000	0.000
	UTERU3000738	41.697	0.000
	UTERU3001053	100.000	0.000
	UTERU3014791	100.000	0.000
	UTERU3015412	100.000	0.000
35	UTERU3017176	100.000	0.000

The result of comparative analysis of cDNA libraries derived from tongue cancer (CTONG) and normal tongue (NTONG) showed the following genes whose expression levels differed between the two.

5

Table 20

	Clone ID	NTONG	CTONG
10	BNGH42007788	0.000	5.734
	BRACE1000186	15.935	0.000
	BRACE2006319	0.000	6.530
	BRACE3010428	0.000	6.396
	BRACE3012364	0.000	7.922
15	BRAMY2020058	0.000	52.028
	BRAMY3002803	0.000	26.873
	BRAWH2001671	0.000	7.082
	BRAWH2014645	0.000	1.969
	BRAWH3002574	0.000	12.314
20	BRCAN2009432	0.000	4.905
	BRCAN2015371	0.000	20.417
	BRCAN2020710	0.000	20.242
	BRHIP2004814	0.000	64.609
	BRHIP3018797	0.000	2.495
25	BRTHA2003461	0.000	4.088
	BRTHA3003490	11.964	0.000
	CTONG1000087	0.000	3.895
	CTONG1000088	0.000	5.442
	CTONG1000288	11.209	84.986
30	CTONG1000302	0.000	100.000
	CTONG1000341	0.000	51.706
	CTONG1000467	0.000	16.004
	CTONG1000488	0.000	100.000
	CTONG1000508	0.000	100.000
35	CTONG1000540	0.000	100.000
	CTONG2000042	0.000	65.252

	CTONG2001877	0.000	100.000
	CTONG2004062	0.000	100.000
	CTONG2006798	0.000	17.972
	CTONG2008233	0.000	8.953
5	CTONG2009423	0.000	64.609
	CTONG2009531	0.000	100.000
	CTONG2010803	0.000	20.971
	CTONG2013178	0.000	35.252
	CTONG2017500	0.000	4.934
10	CTONG2019248	0.000	28.179
	CTONG2019652	0.000	100.000
	CTONG2019704	0.000	62.446
	CTONG2019788	0.000	11.390
	CTONG2019833	0.000	100.000
15	CTONG2020127	0.000	100.000
	CTONG2020522	0.000	42.683
	CTONG2020638	0.000	23.060
	CTONG2020806	0.000	100.000
	CTONG2021132	0.000	100.000
20	CTONG2022153	0.000	100.000
	CTONG2022601	0.000	100.000
	CTONG2023021	0.000	62.680
	CTONG2023512	0.000	100.000
	CTONG2024206	0.000	100.000
25	CTONG2024749	0.000	100.000
	CTONG2025496	0.000	100.000
	CTONG2025516	0.000	100.000
	CTONG2025900	0.000	100.000
	CTONG2026920	0.000	100.000
30	CTONG2027327	0.000	52.760
	CTONG2028124	3.704	0.936
	CTONG2028687	0.000	100.000
	CTONG30000^4	0.000	51.585
	CTONG3000657	0.000	7.226
35	CTONG3000686	0.000	100.000
	CTONG3000707	0.000	100.000

	CTONG3000896	0.000	100.000
	CTONG3001123	0.000	14.616
	CTONG3001370	0.000	65.252
	CTONG3001420	0.000	51.138
5	CTONG3001560	0.000	100.000
	CTONG3002020	0.000	100.000
	CTONG3002127	0.000	62.446
	CTONG3002412	0.000	19.932
	CTONG3002674	0.000	41.611
10	CTONG3003179	0.000	100.000
	CTONG3003483	0.000	100.000
	CTONG3003652	0.000	100.000
	CTONG3003654	0.000	100.000
	CTONG3003737	0.000	100.000
15	CTONG3003905	0.000	36.474
	CTONG3003972	0.000	51.706
	CTONG3004072	0.000	36.356
	CTONG3004712	0.000	100.000
	CTONG3005325	0.000	100.000
20	CTONG3005648	0.000	100.000
	CTONG3005713	0.000	100.000
	CTONG3005813	0.000	72.408
	CTONG3006067	0.000	74.021
	CTONG3006186	0.000	100.000
25	CTONG3006650	0.000	100.000
	CTONG3007444	0.000	100.000
	CTONG3007528	0.000	100.000
	CTONG3007586	0.000	100.000
	CTONG3007870	0.000	100.000
30	CTONG3008252	0.000	100.000
	CTONG3008258	0.000	100.000
	CTONG3008496	0.000	100.000
	CTONG3008566	0.000	100.000
	CTONG3008639	0.000	100.000
35	CTONG3008831	0.000	100.000
	CTONG3008894	0.000	2.708

	CTONG3008951	0.000	100.000
	CTONG3009028	0.000	5.995
	CTONG3009227	0.000	100.000
	CTONG3009239	0.000	5.378
5	CTONG3009328	0.000	44.674
	CTONG3009385	0.000	100.000
	FEBRA2007544	0.000	4.560
	FEBRA2007801	0.000	4.598
	FEBRA2021966	31.791	0.000
10	FEBRA2025427	0.000	9.234
	HCHON2000028	0.000	2.955
	HCHON2001217	0.000	3.877
	HHDPC1000118	0.000	3.904
	HSYRA2008376	11.524	0.000
15	KIDNE2001847	0.000	6.778
	KIDNE2002252	0.000	4.060
	MESAN2006563	0.000	2.572
	NT2RI2008724	0.000	3.421
	NT2RI2018883	0.000	50.616
20	NT2RI3000622	63.099	0.000
	NT2RI3006284	0.000	3.854
	NT2RI3006673	0.000	18.588
	NT2RI3007543	6.253	7.901
	NT2RI3007757	0.000	23.555
25	NT2RP7004123	0.000	3.574
	NT2RP7009147	0.000	2.967
	NT2RP7014005	0.000	10.836
	NTONG2000413	79.538	0.000
	NTONG2003852	49.507	0.000
30	NTONG2005277	100.000	0.000
	NTONG2005969	23.675	0.000
	NTONG2006354	100.000	0.000
	NTONG2007249	100.000	0.000
	NTONG2007517	100.000	0.000
35	NTONG2008088	75.309	0.000
	NTONG2008672	100.000	0.000

	OCBBF2001794	34.843	0.000
	OCBBF2006151	0.000	10.738
	PEBLM2004666	0.000	6.920
	PEBLM2005183	0.000	7.010
5	SPLEN2002467	0.000	6.068
	SPLEN2029912	0.000	6.085
	SPLEN2031547	0.000	2.932
	SYNOV4007671	0.000	1.365
	SYNOV4008440	0.000	2.748
10	TBAES2002197	0.000	28.875
	TESOP2002273	0.000	7.560
	TESTI2009474	0.000	3.763
	TESTI4000014	2.632	0.665
	TESTI4000209	0.000	4.934
15	TESTI4008018	0.000	74.021
	TESTI4009286	0.000	1.350
	TESTI4010851	0.000	1.018
	TESTI4012702	0.000	4.060
	TESTI4013675	0.000	18.389
20	THYMU2031847	0.000	69.076
	THYMU2033308	0.000	26.010
	TLIVE2002690	44.414	0.000
	TRACH2005811	0.000	3.928
	TRACH2007059	0.000	62.446
25	TRACH2025535	0.000	2.163
	TRACH3001427	0.000	1.729
	TSTOM2000553	0.000	12.559
	UTERU2005621	0.000	8.397
	UTERU2017762	0.000	60.963
30	UTERU2023175	0.000	2.773
	UTERU3001572	0.000	6.800
	BLADE2006830	24.778	0.000
	BRHIP3000017	0.000	8.213
	CTONG1000113	0.000	20.967
35	CTONG2003348	0.000	60.963
	CTONG2004000	0.000	100.000

	CTONG2008721	0.000	62.680
	CTONG2015596	0.000	100.000
	CTONG2015633	0.000	100.000
	CTONG2016942	0.000	21.398
5	CTONG2019822	0.000	12.111
	CTONG2020374	0.000	57.889
	CTONG2020378	0.000	30.063
	CTONG2020411	0.000	12.823
	CTONG2020974	0.000	74.021
10	CTONG2024031	0.000	19.255
	CTONG2028758	0.000	29.955
	CTONG3001501	0.000	100.000
	CTONG3002552	0.000	100.000
	CTONG3003598	0.000	100.000
15	CTONG3004550	0.000	100.000
	CTONG3004726	0.000	31.543
	CTONG3009287	0.000	100.000
	FEBRA2008692	0.000	13.709
	FEBRA2028516	0.000	4.261
20	HCHON2000508	2.752	9.042
	NT2RI2009583	4.947	0.833
	NTONG2008093	100.000	0.000
	PERIC2007068	0.000	2.874
	TESOP2007384	44.382	37.388
25	TLIVE2002046	0.000	3.380
	TRACH2000862	0.000	53.910

The result of comparative analysis of cDNA libraries derived from fetal brain (FCBBF, FEBRA, or OCBBF) and adult brain (BRACE, BRALZ, BRAMY, BRAWH, BRCAN, BRCOC, BRHIP, BRSSN, BRSTN, or BRTHA) showed the following genes whose expression levels differed between the two.

Table 21

BRAMY4000095	0.000	0.000	0.000	0.000	14.721	0.000	33.520	51.759	0.000	0.000	0.000	0.000	0.000
BRAMY4000229	0.000	0.000	0.000	25.113	35.650	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.237
BRAMY4000277	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BRASW1000125	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.946	0.000
BRAWH1000127	0.000	7.969	3.971	4.538	9.663	0.000	15.983	0.000	35.693	0.000	35.693	0.000	7.090
BRAWH2001395	0.000	0.000	0.000	3.580	2.541	3.037	14.290	10.422	22.297	12.514	4.546	11.652	0.000
BRAWH2001671	0.000	0.000	0.000	8.097	0.000	0.000	7.605	0.000	11.638	0.000	0.000	12.650	0.000
BRAWH2001940	0.000	0.000	0.000	0.000	0.000	0.000	37.398	0.000	38.155	0.000	0.000	0.000	0.000
BRAWH2001973	0.000	0.000	0.000	0.000	0.000	0.000	37.398	0.000	38.155	0.000	0.000	0.000	0.000
BRAWH2002560	11.923	24.132	24.052	0.000	6.503	0.000	6.454	0.000	3.292	12.010	11.635	0.000	0.000
BRAWH2002761	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2005315	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2007658	0.000	0.000	0.000	0.000	0.000	0.000	58.101	0.000	0.000	0.000	41.899	0.000	0.000
BRAWH2010000	0.000	0.000	0.000	0.000	0.000	0.000	18.745	43.006	38.249	0.000	0.000	0.000	0.000
BRAWH2010084	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2010536	0.000	0.000	0.000	0.000	0.000	0.000	14.718	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2012162	0.000	0.000	0.000	0.000	0.000	0.000	36.060	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2012326	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2013294	0.000	0.000	0.000	13.997	0.000	0.000	39.442	0.000	10.060	0.000	0.000	0.000	0.000
BRAWH2013871	0.000	0.000	0.000	0.000	0.000	0.000	37.485	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2014414	0.000	0.000	0.000	0.000	0.000	0.000	54.002	0.000	18.227	0.000	0.000	9.906	0.000
BRAWH2014645	0.000	2.635	6.566	3.751	2.130	0.000	4.228	0.000	1.078	0.000	0.000	1.172	0.000
BRAWH2014662	0.000	0.000	0.000	11.016	0.000	0.000	15.521	0.000	0.000	0.000	0.000	17.212	0.000
BRAWH2014876	0.000	0.000	0.000	7.433	0.000	0.000	10.473	24.026	0.000	0.000	0.000	58.068	0.000
BRAWH2014954	0.000	0.000	0.000	41.512	0.000	0.000	58.488	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2016221	0.000	0.000	0.000	0.000	0.000	0.000	47.417	0.000	0.000	0.000	0.000	52.583	0.000
BRAWH2016439	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2016702	0.000	0.000	0.000	26.193	0.000	0.000	73.807	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH2016724	64.881	0.000	0.000	0.000	0.000	0.000	35.119	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3000078	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3000100	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3000314	0.000	0.000	0.000	0.000	0.000	0.000	71.553	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3000491	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3001326	0.000	0.000	0.000	0.000	0.000	0.000	45.606	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3001475	0.000	0.000	0.000	0.000	0.000	0.000	100.000	0.000	0.000	0.000	0.000	0.000	0.000
BRAWH3001891	0.000	0.000	0.000	36.772	0.000	0.000	17.401	0.000	0.000	0.000	0.000	0.000	0.000

